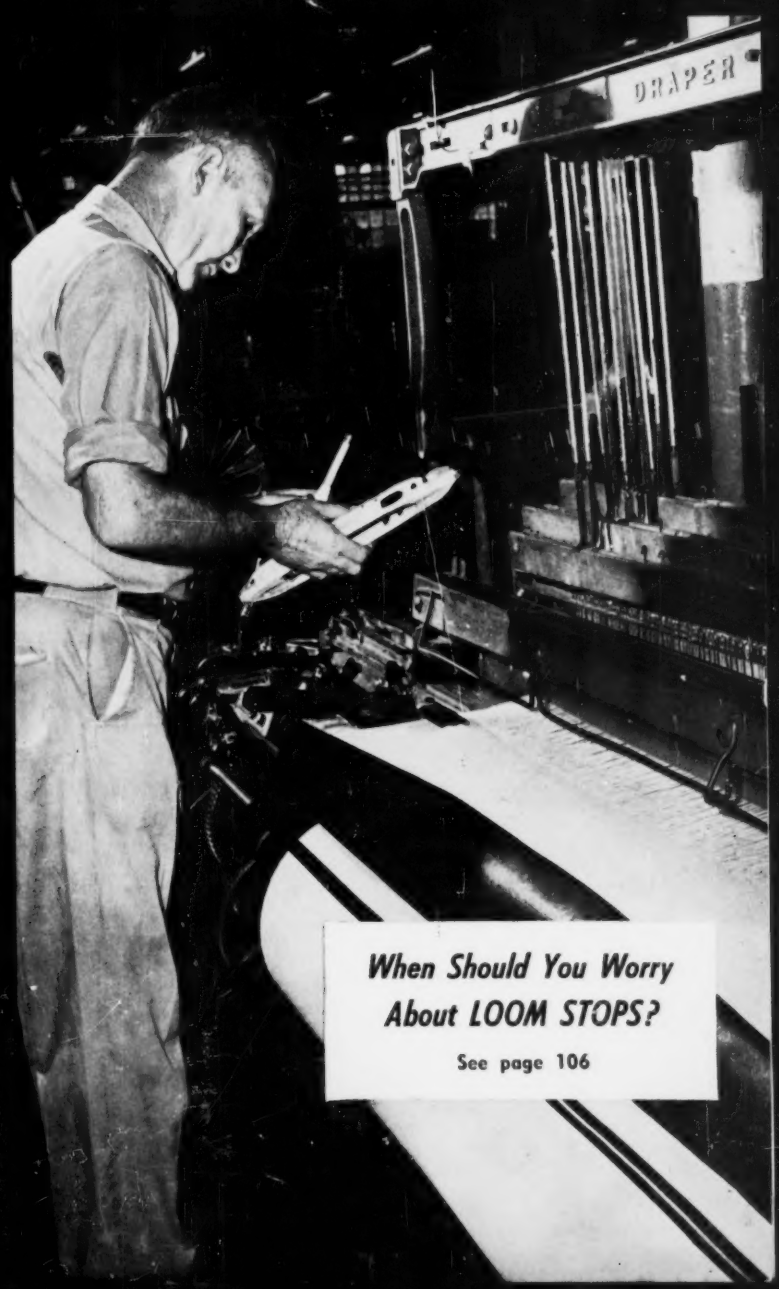
TEXTILE WORLD

ARTICLES IN THIS ISSUE DISCUSS:



When Should You Worry About LOOM STOPS?

See page 106

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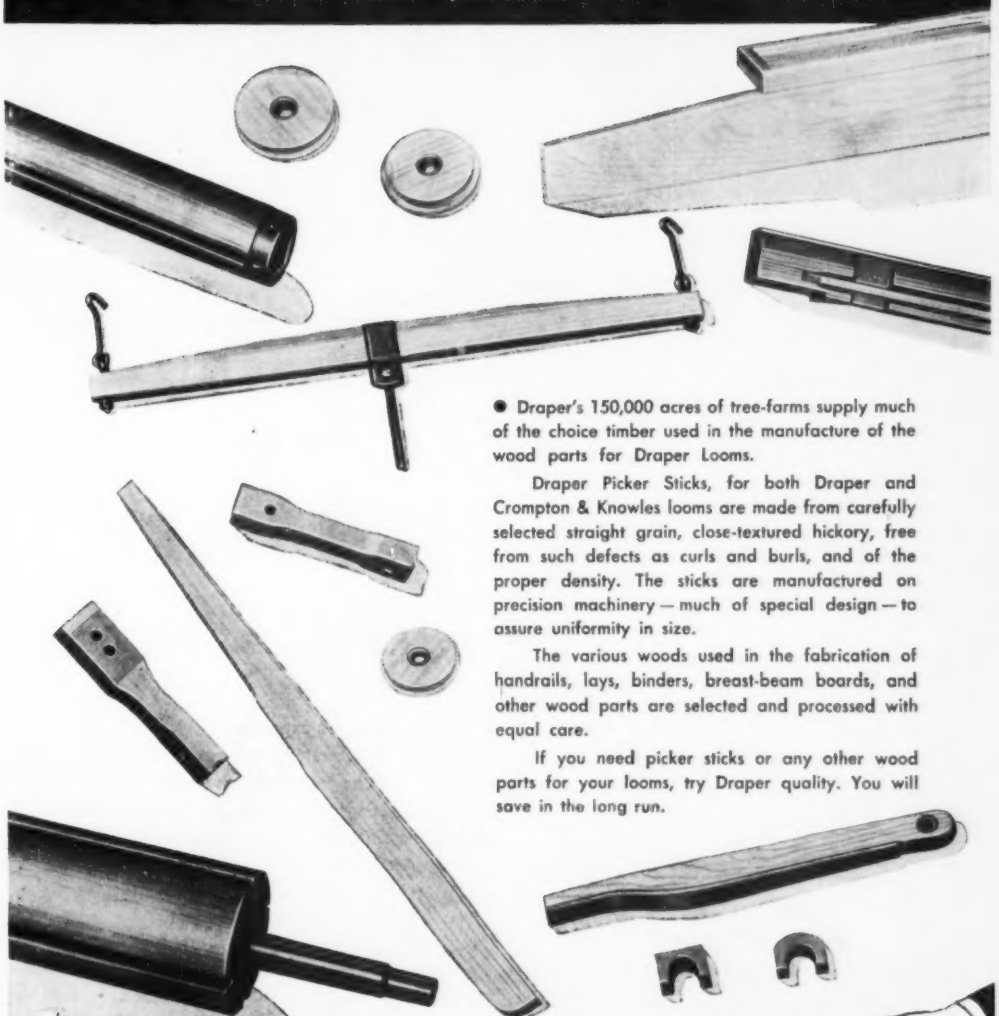
Wood Parts for Draper Looms



● Draper's 150,000 acres of tree-farms supply much of the choice timber used in the manufacture of the wood parts for Draper Looms.

Draper Picker Sticks, for both Draper and Crompton & Knowles looms are made from carefully selected straight grain, close-textured hickory, free from such defects as curls and burls, and of the proper density. The sticks are manufactured on precision machinery — much of special design — to assure uniformity in size.

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THE Long-Range VIEW

Massachusetts Can Save Its Mills

Politicians in Massachusetts are helping kill the textile industry in that state. The Blanchard report on the competitive position of industry in Massachusetts makes that fact clear, substantiating it with figures and with comments by responsible mill men.

The report was made by a disinterested consulting firm; and because it criticized the vote-getting, industry-soaking policies of the politicians, the administration (Democrats) promptly got its hands on all the copies of the report and refused to let anybody see them. Pressure from the Republican minority and newspapers made the report such a hot potato that the administration finally dropped it.

Three of the most important adverse conditions the report gave as facing Massachusetts mills were:

1. Unions have forced wider wage-rate differentials between Massachusetts and the South.

2. Workers refuse to accept work loads based on the amount of work done rather than on the number of machines tended.

3. The State government is unfriendly to mill managements or at least lacks understanding of managements' problems.

One of the most striking things that comes out in the Blanchard report—and all other reports on conditions in Massachusetts—is the antagonism among groups. Mills, workers, labor leaders, and politicians are all fighting each other. And most of them are pursuing a course of extremely narrow self-interest.

The Blanchard report—which seems to be an impartial statement of facts and attitudes—is teeming with accusations, pleas, and threats by the various groups. They all want action—but action by someone else to favor them.

Labor leaders and some mills, for example, want the Federal government to force the whole industry to accept Massachusetts's pay rates—but the unions say nothing about raising worker productivity in Massachusetts to that of the South. Mills want the State government to drop its "pro-labor" attitude and legislate in their favor—but they say nothing about correcting the attitudes and practices that make them so vulnerable to pro-labor sentiment. Communities want mills to remain in their present locations—but nothing is done to make the communities desirable places to do business in.

When the ballyhoo and jockeying for position are eliminated, it is evident that the present advantage of the South over Massachusetts is in large measure a matter of people and attitudes. Moving South for lower wage rates is a myth. Migrating to escape unions is also a myth. The superiority of Anglo-Saxon workers as such is another myth. We have discussed migration with a great number of mill men in the last few weeks, and not in a single instance have we found any support for these high-sounding excuses. Give-and-take negotiating is as prevalent in the South between workers, management, and communities as it is in the North. The difference is that in the North, groups fight over the "take." The Blanchard report bears out this conclusion. In the South, groups "fight" over the "give." Each group leans over backwards to meet as much as is reasonable of the needs and wants of the others. The objective of the common good of all supersedes the individual need of each. The result is that all groups —individually and collectively—make rapid forward progress.

Much is said by Southern mill men in favor of Southern workers, but labor relations and productivity have bogged down in too many mills in the South to consider Anglo-Saxon workers a panacea.

Enough studies have been made on what is wrong in Massachusetts. It is time to direct a little effort toward correcting the ills everyone knows exists. Ill No. 1 certainly is an attitude of arrogance in every group concerned. It is useless to continue with the bickering and threatening now going on. Mills can migrate, unions can pull strikes, politicians can pass laws; but in the long run, nobody gains unless the business climate is healthy and mills can remain in a competitive position.

There is enough data on hand for capital, management, labor, and politicians to sit down and draw up master plans for clearing the air and safeguarding the future of the textile industry—not only in Massachusetts, but also in any other state where unhealthy conditions exist or threaten. If wage rates can be negotiated, there is no reason why other factors that contribute to the life and death of mills cannot be brought into the light and negotiated.

The basic requirement, of course, is sincerity. Without that, any get-together is a waste of time. And unless each group is sincere in an effort to shoulder its business, economic, and social responsibilities, it deserves to be caught in the economic crusher.

O. M. Thomas

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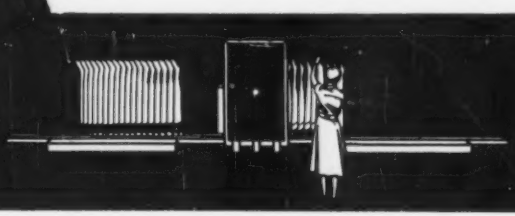

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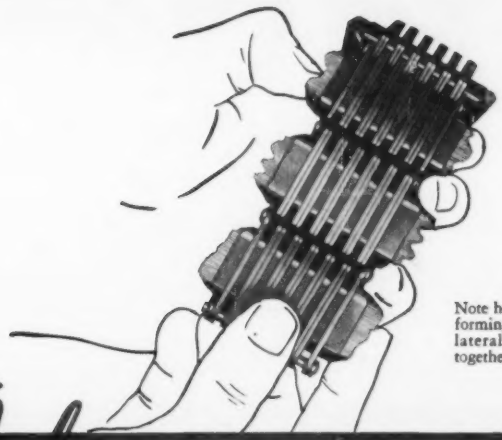

Note how slats in the self-tooth-forming chain are free to move laterally — either singly or together.

Only **the P.I.V. variable speed drive uses**

SELF-TOOTH-FORMING CHAIN

to give you positive, stepless speed changing

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That's because only Link-Belt's P.I.V. has the self-tooth-forming chain that allows *positive*, stepless speed adjustment.

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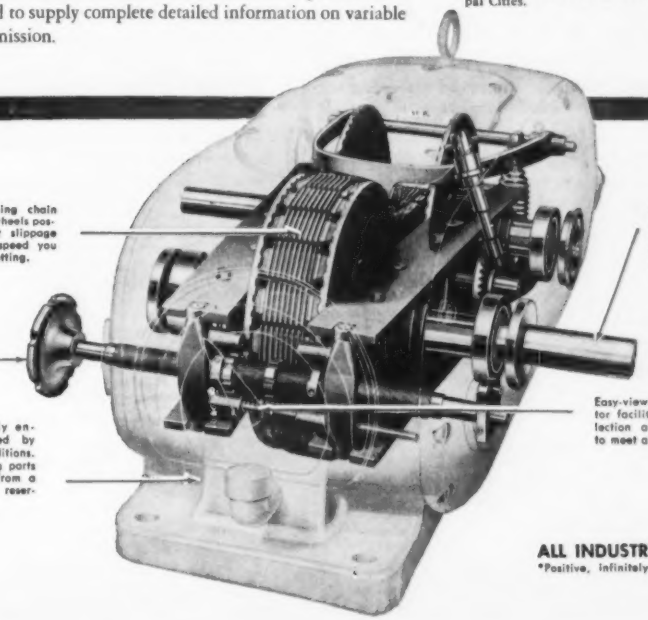
LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in Principal Cities.



Self-tooth-forming chain grips toothed wheels positively without slippage — gives the speed you need at any setting.

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3 Improved results from the steaming process —since Nopco FUA does not set in the yarn, nor in fabric when greige goods are crabbed. Result: No cloudy dyeing.

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—the specially developed anti-static oil that enables the WORSTED manufacturer to obtain exceptionally good results—comparable to those achieved by users of Nopco FUA for wool processing.

1 Fibers remain static-free thruout carding, gilling, combing and drawing.

2 Even-running yarn is assured.

3 Removal is phenomenal. Used in conjunction with alkali, polyphosphate and water, Nopco 1656-R actually *converts into suds.* Soap usage is reduced 50-75%.

4 Because of this self-scouring feature, *better* dyeing and finishing results are obtained at *lower* cost.

5 Nopco 1656-R is non-gumming, non-yellowing, non-corrosive.

6 No changes in equipment or methods are necessary. Nopco 1656-R is applied in same manner as any conventional lubricant.

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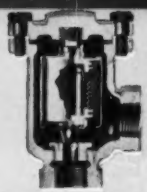
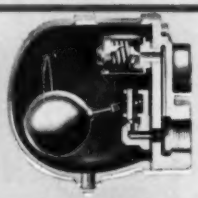
STEAM TRAPS ARE LIKE THAT...

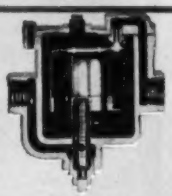
Thermostatic Trap



Float-Thermostatic Trap



Bucket Trap



Liquid Expansion Trap

312

SARCO
SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
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SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

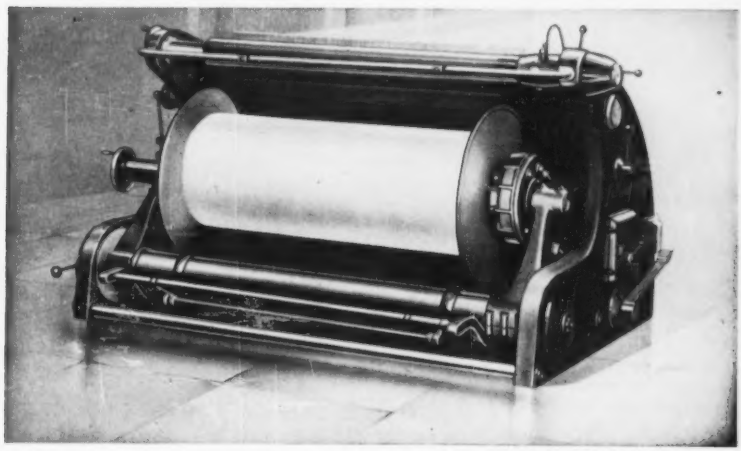
Schlafhorst

MACHINERY FOR WINDING AND WARPING

New CZU pattern HIGH SPEED WARPER

for beams with flanges 30" diameter

Greatest simplicity — Extraordinary production



We also make CONE CREELS of various types such as f. i.

TRUCK CREELS and **MAGAZINE CREELS**

with electric eye-board detectors for sudden stoppage of the warping head on the breakage of an end.

W. SCHLAFHORST & CO · M. GLADBACH · GERMANY

FIBER FARE..... from Du Pont

MACHINE "PERSPIRES" TO FIND OUT MORE ABOUT CLOTHING COMFORT!

This weather-making machine contains a man-made "skin" that can change its temperature . . . even *perspire* when hot! By placing a fabric over the skin, Du Pont fiber scientists can check the comfort factor in varying climates. Such research helps Du Pont chemists in finding out more about fabric needs, and enables them to build into fibers qualities that supply these needs.

NEW TWIST TO A FAMILIAR FIBER

Du Pont's Fiber E, now in limited production, is an example of continued research on viscose rayon. With a special finishing treatment, it curls or crimps into a fuzzy fiber with high abrasion resistance. Its future lies in its ability to give new surface effects to rugs, carpeting, upholstery and drapes—in suedes, velvets and nubby, rougher surfaces.

As far back as the 17th century, the forerunners of today's textile technologists were watching spiders spin their webs in an effort to learn how *man* could make a fiber. Today, scientists no longer try to imitate nature. They start with the very molecule itself in building man-made fibers that have specific properties planned into them.

BIG SALES STORY STARTS HERE!

Facts about man-made fibers are made interesting to the consumer in big-space ads like these, coming soon in national magazines. Such advertising helps educate shoppers to the advantages that man-made fibers are giving to apparel and other merchandise.

WHY DOES DUPONT MAKE 5 FIBERS?

You know the answer . . . but maybe your customers don't! Make sure they are aware that each new Du Pont fiber is not meant to replace an existing fiber . . . that each has been built to supply a combination of properties that makes it right for certain jobs. And make sure your salespeople can answer all the fiber questions! It pays to have the fiber facts on every product they sell!

NYLON
ACETATE
ORLON* acrylic fiber
RAYON
DACRON* polyester fiber
*DU PONT TRADE MARKS

DU PONT
REG. U. S. PAT. OFF.

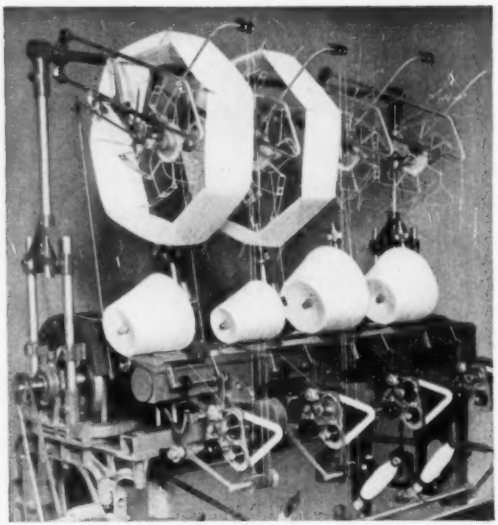
Du Pont makes only fibers—not fabrics or finished products shown.
E. I. du Pont de Nemours & Company (Inc.), Wilmington, Delaware.

BETTER THINGS FOR BETTER LIVING. . . THROUGH CHEMISTRY

DU PONT FIBERS ARE PLANNED FOR BETTER LIVING

It's no time to guess—about Quality
Cling to the tried and true, in Ball Bearings too. New Departure not only makes them of unsurpassed quality but builds in predictable performance under known conditions. Consult a New Departure engineer while your design is in the blueprint stage.
Nothing Rolls Like a Ball...
NEW DEPARTURE
BALL BEARINGS
NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT

Schweiter



THE SCHWEITER KM CONE WINDER

Designed especially for the knitting industry, the new Schweiter KM Cone Winder consists of a variable number of individual units, each a self-contained winder, individually driven — each waxing and winding in the same operation from either bobbins or skeins. When threads become entangled in the skein, a new tension compensation device automatically stops the unit before thread breaks occur and eliminates stretched yarn. Speed changes can be effected quickly for efficient winding from all types of yarn packages, and pressure against the cone may be adjusted according to the delicacy of the yarn being wound. Here's the precision cone winder you've been looking for . . . the formula for perfect cone production at low operating cost.

SCHWEITER LTD

HORGEN (Zurich) Switzerland

Sole Agents for the United States and Canada

AMERICAN SCHWEITER COMPANY • WHITINSVILLE, MASS.

For more information, write direct or use Reader Service post card.

Is this "Drip" necessary?

NO . . . oil leakage from hydraulic machines — now costing industry millions of dollars annually — *can be controlled!* Today, after two years of intensive study, Socony-Vacuum can help you solve this critical problem.

Here's what controlled leakage — plus high-quality hydraulic oils — will do for you . . . assure more continuous production, fewer rejects, reduced maintenance, less oil make-up, greater safety for plant personnel, peak machine efficiency. And with controlled leakage, the use of high-quality Gargoyle oils is more economical than ever.

Helping you control hydraulic leakage is just one of many cost-saving services which go with Socony-Vacuum Correct Lubrication. Why not call our representative today?

Send *today* for this important booklet — "Is Leakage Necessary?" Write: Socony-Vacuum Oil Company, Inc., 26 Broadway, New York 4, New York

SOCONY-VACUUM

SOCONY-VACUUM

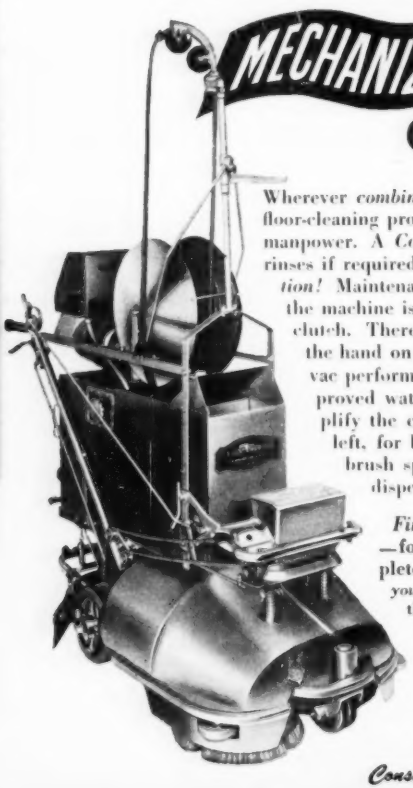
CORRECT LUBRICATION

SOCONY-VACUUM OIL CO., INC.
and Affiliates:
MAGNOLIA PETROLEUM CO.
GENERAL PETROLEUM CORP.

WORLD'S GREATEST LUBRICATION KNOWLEDGE AND ENGINEERING SERVICE

Let's not clean away dollars and man-hours with costly, inadequate floor care

MECHANIZE your floor-cleaning with a COMBINATION SCRUBBER-VAC!



Wherever *combination-machine-scrubbing* is the practical solution to the floor-cleaning problem, any lesser, slower method is wasteful of money and manpower. A *Combination Scrubber-Vac* applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor) — *all in one operation!* Maintenance men like the *four-in-one feature* . . . also the fact that the machine is simple to operate. It's *self-propelled*, and has a *positive* clutch. There are no switches to set for *fast* or *slow* — slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly. Cable reel is self-winding. Improved waterproof wiring and minimum electrical connections simplify the cleaning of the machine. *Model 213P Scrubber-Vac* at left, for heavy duty scrubbing of large-area floors, has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! (Powder dispenser is optional.)

Finnell makes *Scrubber-Vac Machines* in a full range of sizes —for small, vast, and intermediate operations. From this complete line, you can choose the size that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac*, and that *there's a Finnell man nearby* to help train your maintenance operators in the proper use of the machine . . . to recommend cleaning schedules for most effectual care . . . and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1901 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

Conserve Manpower with Completely Mechanized Scrubbing

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

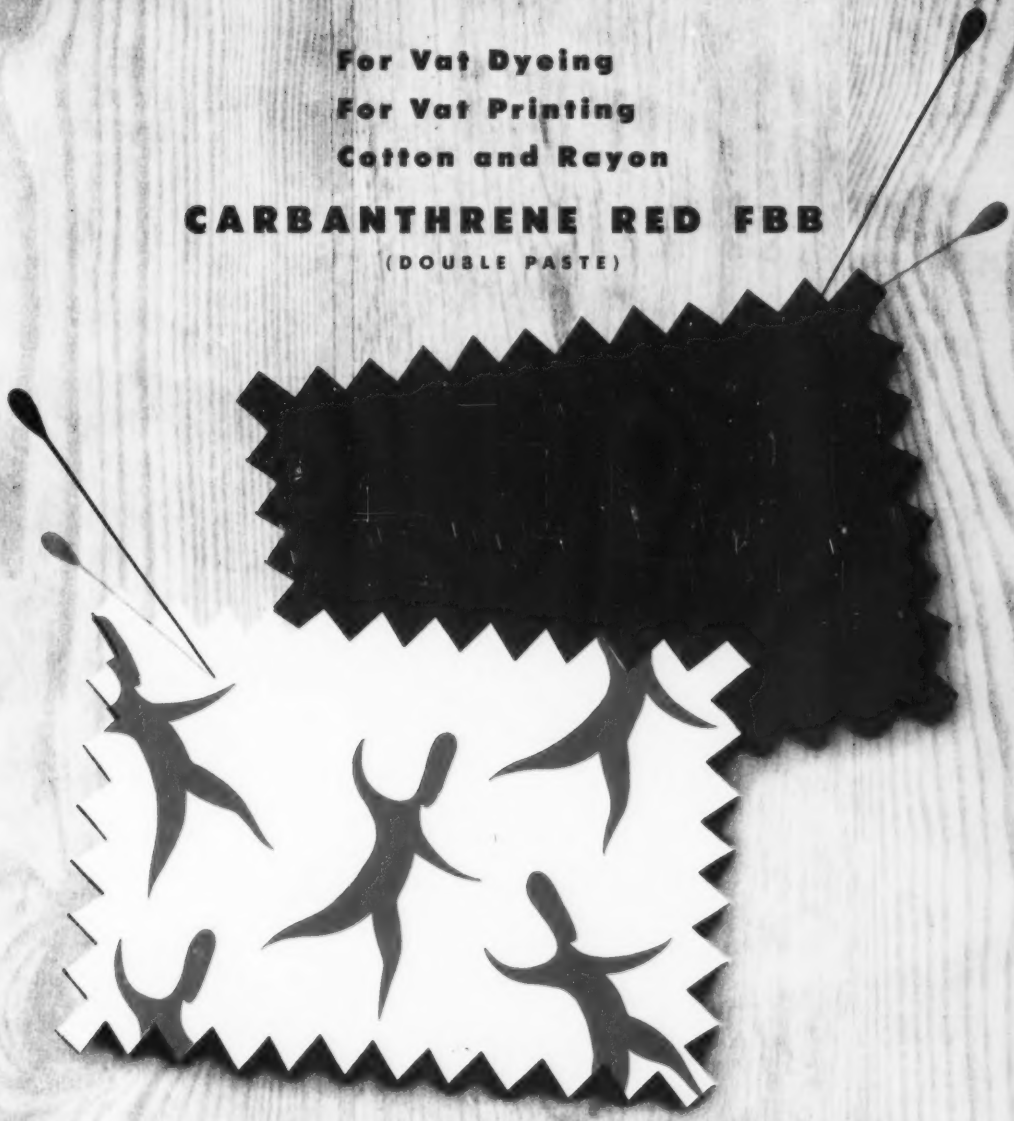
FINNELL

BRANCHES IN ALL PRINCIPAL CITIES

For Vat Dyeing
For Vat Printing
Cotton and Rayon

CARBANTHRENE RED FBB

(DOUBLE PASTE)



Produces clear, bright shades with excellent all-around fastness. An excellent value recommended for upholstery, drapes and other launderable articles.

Write, wire or phone the nearest National Aniline office for prompt service on this widely-useful vat dye.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-3240

Boston 14, Mass., 140 Causeway St.	Capitol 7-6450	Richmond 19, Va., 8 North Fifth St.	Richmond 2-1930
Providence 3, R.I., 15 Westminster St.	DExter 1-3010	Columbia, Ga., Columbia Interstate Bldg.	Columbia 3-1529
Philadelphia 6, Pa., 200-204 S. Front St.	LOckard 9-6387	Greensboro, N.C., Jefferson Standard Bldg.	GReenshoro 2-2510
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Portland 9, Ore., 720 West Burnside St.	Beacon 1053	Atlanta 2, Ga., 148 Peachtree St.	CYpress 2021
Chicago 54, Ill., The Merchandise Mart	SUperior 7-2387	New Orleans 18, La., 714 Carondelet Building	Raymond 7239
Charlotte, 1 N.C., 201-203 West Fred St.	Charlotte 3-0721	Toronto 2, Canada, 137-143 Wellington St. W.	Empire 4-0488

L. F. Dommerich & Co., Inc.

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Telephone: Murray Hill 3-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

BUSINESS ESTABLISHED 1840

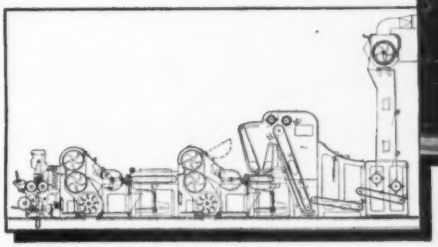
Rieter Winterthur

This Double Beater Picker

(ALSO CONSTRUCTED WITH AUTOMATIC LAP DOFFER)

has reserve bin for even feeding

which is decisive for the uniformity of laps. Reserve filling trunk and supplementary feed bin in conjunction with the two delivery lattices at the outlet are instrumental in obtaining perfect one process picking.



Rieter's feed regulation uses two pairs of cones. Heavy irregularities are corrected by the first unit, whilst the second one in combination with a differential gear eliminates any still existing unevenness and fluctuation over a given length.

DOUBLE CONE REGULATOR OVERHANGING TYPE

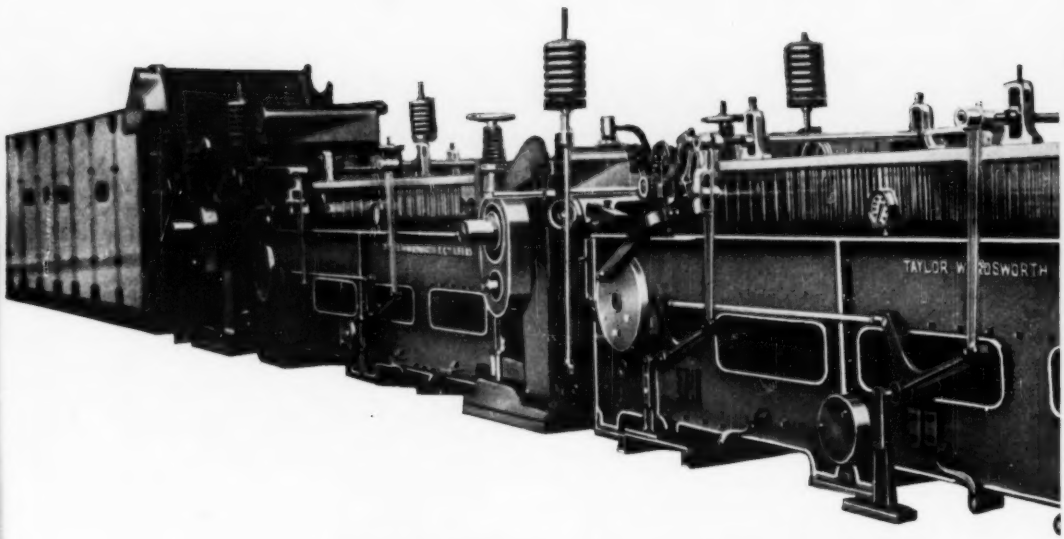
Sole Agents in U. S. and Canada

AMERICAN RIETER COMPANY, INC.

577 KEARNY AVENUE ARLINGTON, NEW JERSEY, U.S.A.

No. 3 of a series introducing Rieter Products to the Textile Industry.

clean, white, elastic,



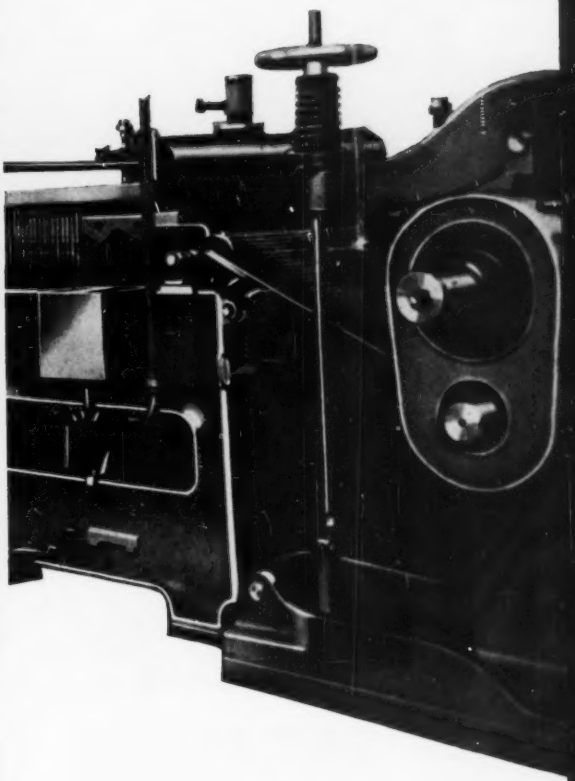
LEVIATHAN WASHER & AIREFLOW DRYER

Strict adherence to high engineering standards ensures maximum production with minimum maintenance. The LEVIATHAN's harrow type action handles stock gently with little agitation, delivering a really clean wool to the AIREFLOW DRYER. This is the original dryer of this type and is still unsurpassed. Its patented Counter-Flow Air Circulating System delivers a cool, evenly dried lofty wool, with low steam consumption. AIREFLOW's streamlining, inside and out, keeps maintenance low and allows for easy accessibility. May we send you more data on wool washing or wool, cotton, flax, rags, etc. drying?

PRINCE-SMITH & STELLS
LIMITED
INCORPORATING TAYLOR WORDSWORTH & CO. LTD.
KEIGHLEY ENGLAND

For more information, write direct or use Reader Service post card.

lofty stock



Our responsibility does not stop

We are in no position to "pass the buck". Being engineers and agents for opening *to* spinning machinery, we realize that our responsibility does not stop with the function of an individual machine but also includes its effect upon your entire process. May we be of service to you in installing an individual machine or an entire mill?

Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

a.h.

211 CONGRESS STREET
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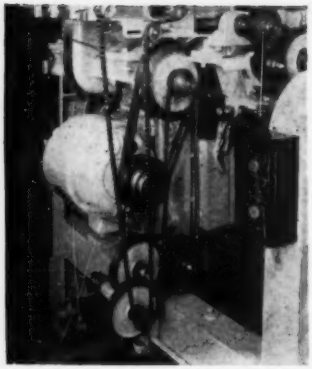
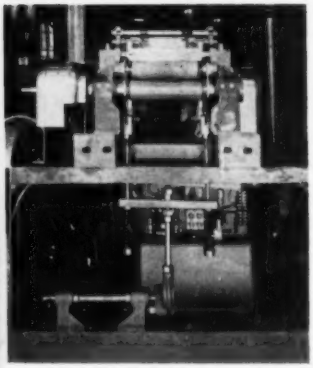
TAYLOR, WORDSWORTH & COMPANY, LTD.

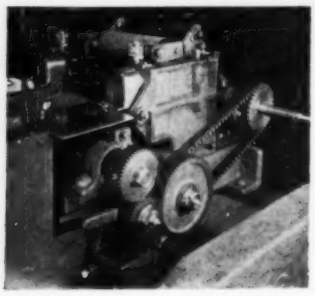


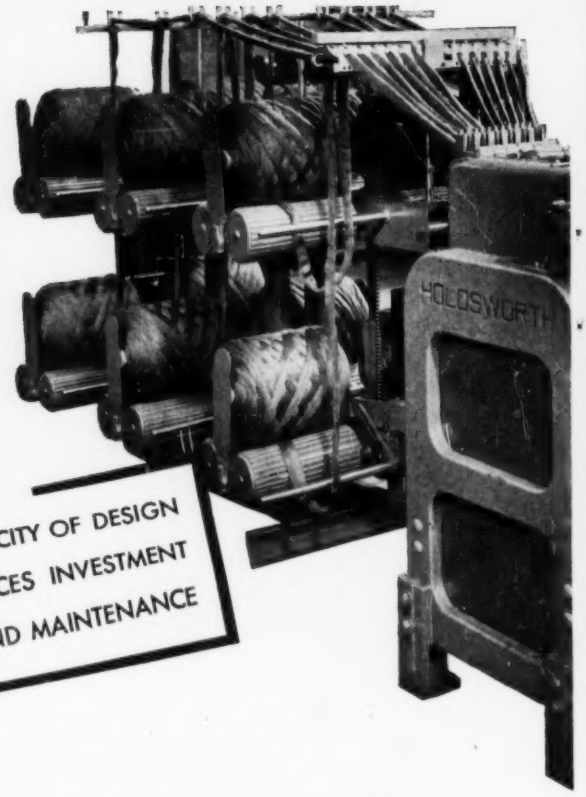
INDIVIDUAL MOTOR DRIVE View of the back of the frame shows how compact and accessible is the variable speed drive.



DRAWING OFF ROLLS & ROLLER WEIGHTING The simple, quick relieving, roller weighting is shown together with the front rolls and electrical control panel.

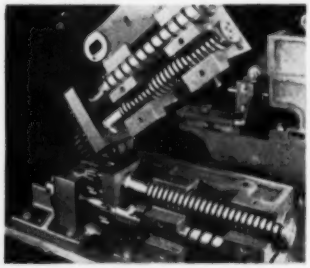
CHANGE GEARING These are the only change gears in the entire machine and are easily accessible for quick changing. Note the sturdy construction.



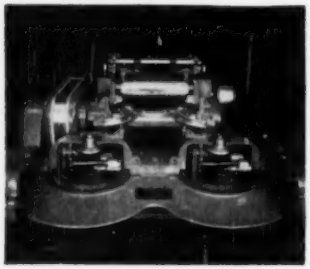


SIMPLICITY OF DESIGN REDUCES INVESTMENT AND MAINTENANCE

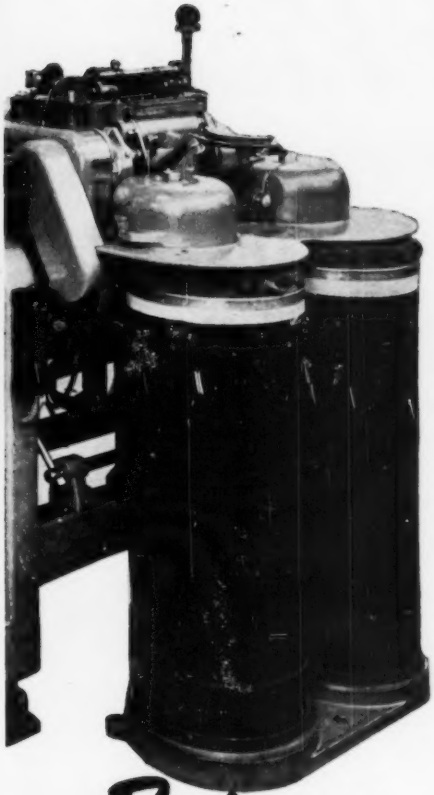
Holdsworth Gill



HEAD OPENED, STILL IN TIME Head may be opened for cleaning or inspection without disturbing the timing. The sturdy screw blocks are shown with Holdsworth one piece screws and patented Holdsworth cams. These screws will transport the famous Holdsworth fallers that have solid steel middles drilled for replaceable pins.



IMPROVED COILER HEADS The coiler head is opened here to show the simplicity of the new, improved mechanism. Sliver guides and two of the four push button controls can be seen in this view. The Holdsworth Gill Reducer is also made with a balling head if desired. (Ball creel is shown in main illustration: can creel is available.)



Reducer

FOR WOOL, SYNTHETICS & BLENDS

There are fewer working parts in a Holdsworth Gill Reducer — Fewer parts to maintain. Fewer parts to wear. Fewer parts to purchase. Yet the ruggedness and good machining of these parts allows the taking of two ends through one head. If you will consider these advantages in relation to your mill, perhaps you will want to see these Reducers in action. Wire us collect to locate the installation nearest to you.

HOLDSWORTH
GILL SCREW CO., INC.
PLANT: 55 SABIN STREET
PAWTUCKET, R. I.

48 Hour Service

REPAIRING GILL SCREWS

Send Holdsworth Screws to be repaired direct to the plant, 55 Sabin St., Pawtucket, R. I. Within 48 hours we will send you a screw expertly repaired and of true pitch. We also repair all types of fallers.

Atkinson, Haserick & Co.

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211 CONGRESS STREET
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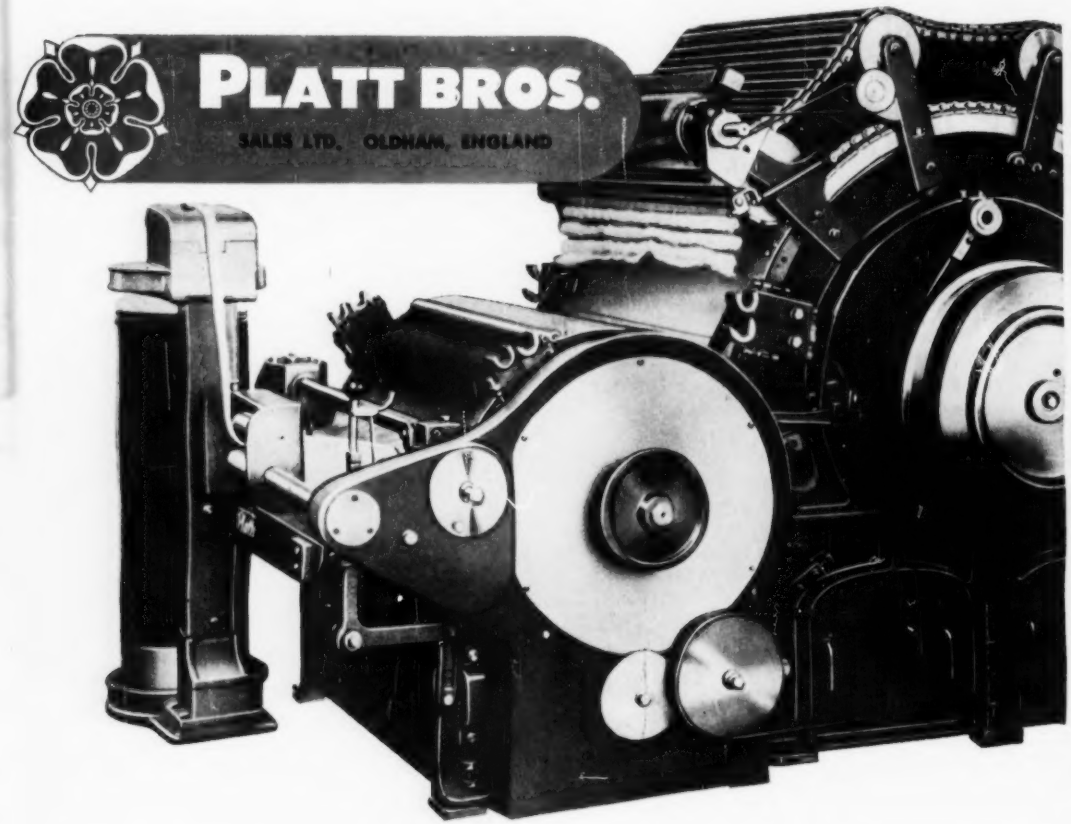
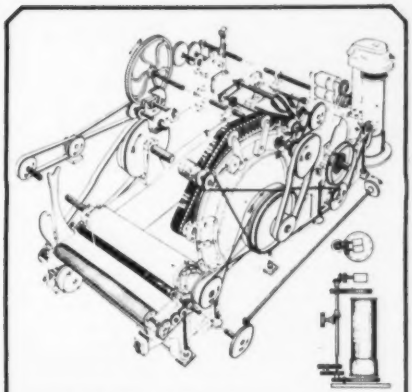
Hundreds of Platt

are already improving production in American cotton mills

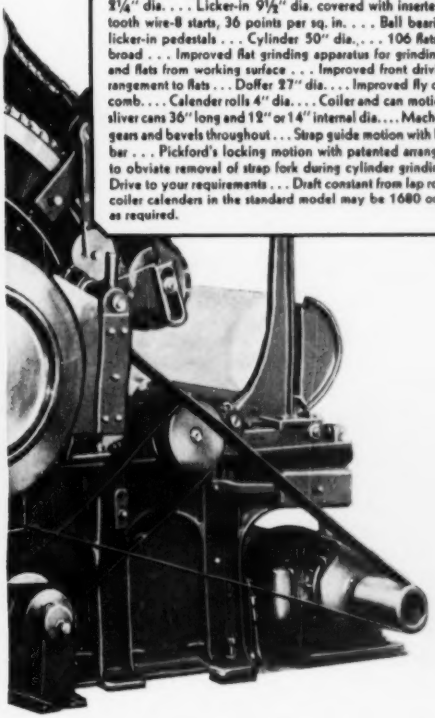
There are a lot of mills rediscovering the perfection of Platt machinery. This cotton card is solidly built to close tolerances. One outstanding result is the way it takes *and holds* an accurate setting; vibration is eliminated at all working speeds; undesirable air currents are eliminated. Notice the streamlined design and guarding to keep fly *outside* where it can be easily wiped off. It will pay you in immediate cash savings and future improved production to see this card in action. Could you visit our Charlotte machinery center, or perhaps we could arrange a trip to a nearby installation? You'll hear a lot about even, nepless webs!!



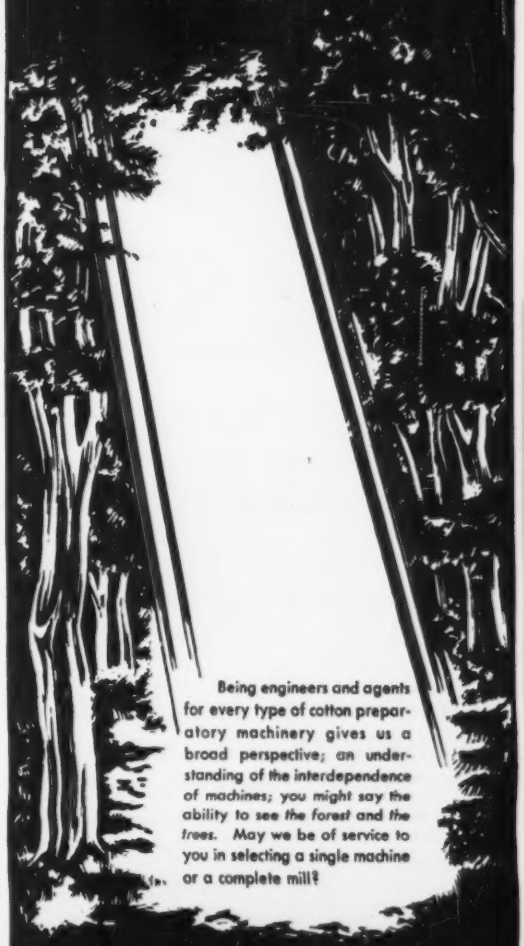
Cards



STANDARD SPECIFICATIONS: 40" wide . . . Clothing for your requirements . . . Dish feed plate with fluted steel roller 2¼" dia. . . . Licker-in 9½" dia. covered with inserted saw-tooth wire-8 starts, 36 points per sq. in. . . . Ball bearings to licker-in pedestals . . . Cylinder 50" dia. . . . 106 flats 1⅜" broad . . . Improved flat grinding apparatus for grinding wire and flats from working surface . . . Improved front driving arrangement to flats . . . Doffer 27" dia. . . . Improved fly doffing comb. . . . Calender rolls 4" dia. . . . Coiler and can motions for sliver cans 36" long and 12" or 14" internal dia. . . . Machine cut gears and bevels throughout . . . Strap guide motion with handle bar . . . Pickford's locking motion with patented arrangement to obviate removal of strap fork during cylinder grinding . . . Drive to your requirements . . . Draft constant from lap roller to coiler calenders in the standard model may be 1680 or 2240 as required.



Seeing the machine and the process...



Being engineers and agents for every type of cotton preparatory machinery gives us a broad perspective; an understanding of the interdependence of machines; you might say the ability to see *the forest* and *the trees*. May we be of service to you in selecting a single machine or a complete mill?

Atkinson, Haserick & Co.

a. h.

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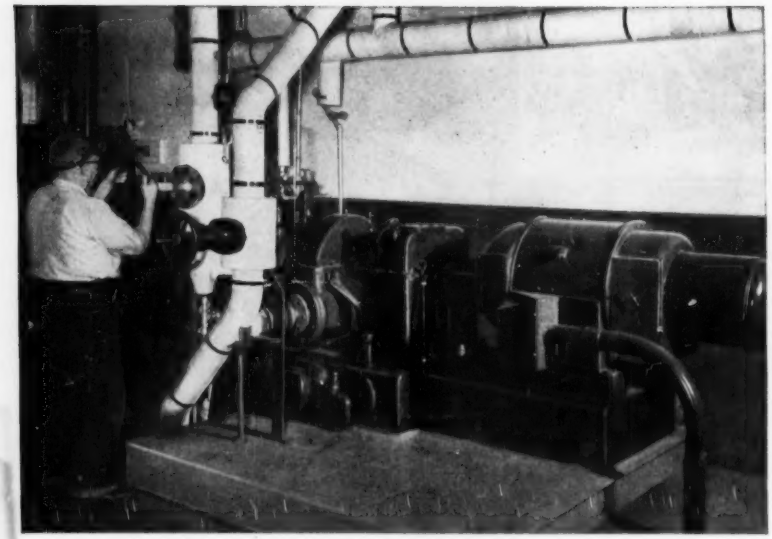


Co-ordinating power generation with process-steam production is justified by the economics of the dyeing operation at Fruit of the Loom, Pontiac Division's print works. This 100-kw G-E turbine-generator furnishes all the d-c power needed for the plant's open soaper range drive, and also exhausts low-pressure steam for process heating. On the right of the turbine are the d-c generator and its exciter. Shown in photo is Clarence Frey, plant power engineer.

FRUIT OF THE LOOM PLANT INSTALLS G-E TURBINE-ELECTRIC RANGE DRIVE to cut dyeing costs

Utilizes available steam to drive G-E turbine-generator powering continuous dyeing range

Here is a case where the constructive help of a General Electric textile-mill specialist enabled a company to obtain power for its continuous dyeing range at really low cost. It's the Fruit of the Loom, Pontiac Division, at Pontiac, R. I., where the dyeing process includes an open soaper driven by nine G-E gear-motors. Since steam for process needs was available in quantity, the G-E representative suggested taking advantage of this fact by using a steam turbine.

Recently installed, this G-E turbine takes steam at 215 pounds gage to run a d-c generator that powers the G-E gear-motors. The turbine's exhaust steam, at 25 pounds gage, is then used to heat dyes and for other process uses. Result: power for the drive motors, at very low cost!

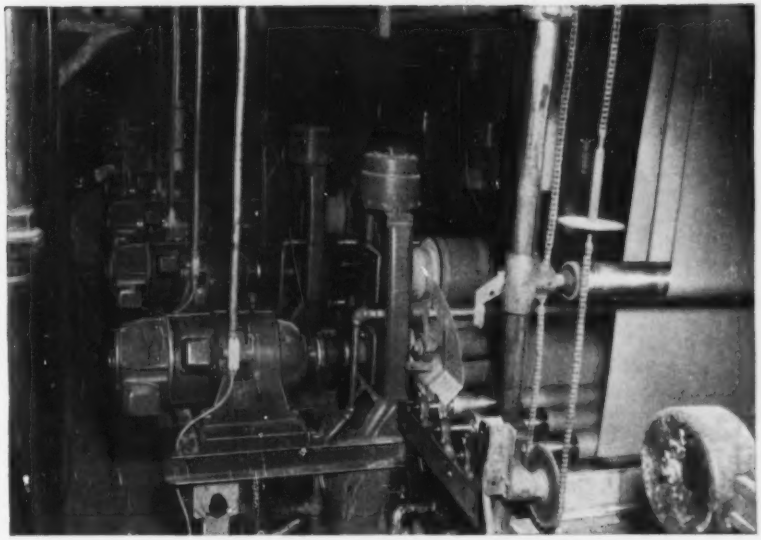
If *your* textile mill has available steam at 90 pounds gage or more, and additional low-pressure process steam is needed, a G-E turbine-electric range drive may well apply to your operation. Like all G-E range drives, it offers wide speed ranges, easily controlled over-all speed, operating flexibility, close co-ordination of all motor speeds, and modern electric braking systems—for most efficient range operation!

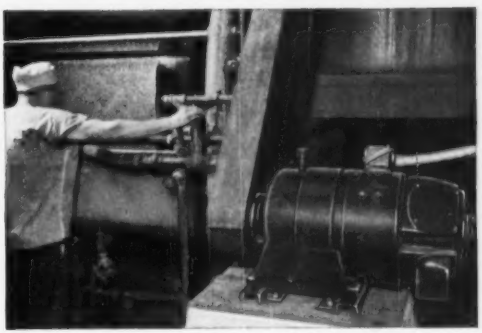
Whether you're planning a complete new range, or converting to range operation, a G-E textile-mill specialist is available to work on your drive problems—to your profit. Call him at your nearest G-E office. Meanwhile, send for Bulletins GEA-5010 and GEA-5648. *General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

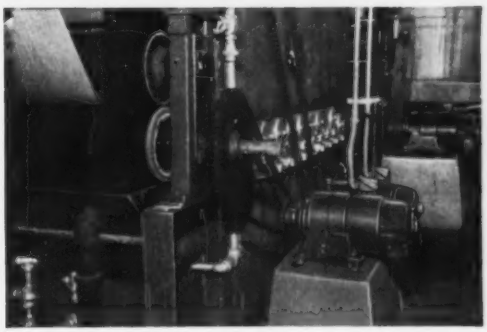
654-21

Because a low, reliable speed was needed nine G-E d-c gear-motors were chosen to drive the open soaper—part of the plant's continuous dyeing range—where surplus dyes are rinsed off the material. Each of these gear-motors—rated 5 hp, 230 volts, 100 rpm—combines a 1750 rpm motor with a built-in reduction gear into one self-contained unit that is highly efficient, compactly designed to save space, and sturdily built for long life.





After pigment is applied, cloth passes through drying flue to this 3-roll chemical padder, then through the ager to the open soaper, and finally to the dry cans. Driving the padder is another G-E d-c gear-motor, this one rated 10 hp, 230 rpm.

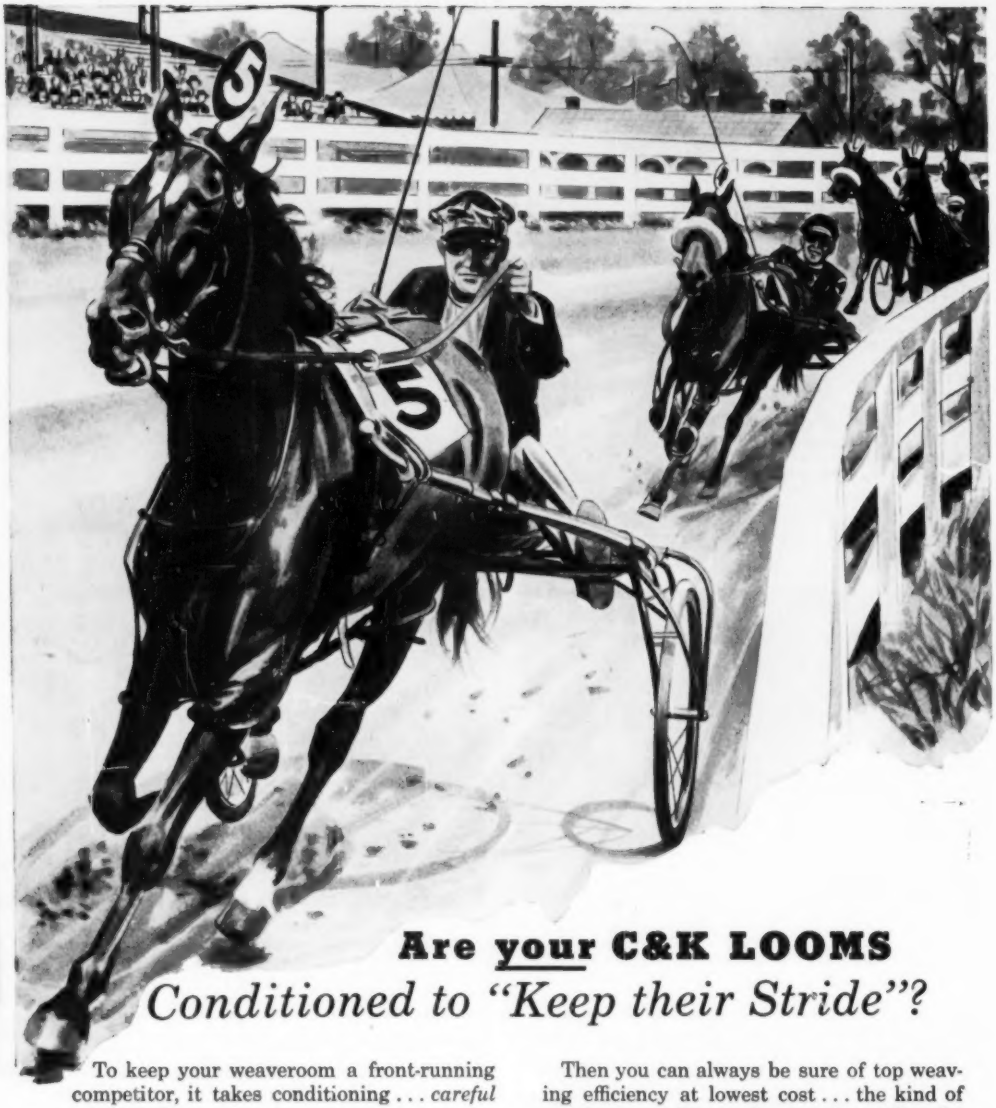


From the 3-roll padder, material passes through this ager, where dyes are set in the material. One of these two G-E 3-hp d-c gear-motors drives the ager, the other drives the nip rolls which squeeze material emerging from the ager.

Shown here discussing the range control panel—which provides armature and field control of the d-c generator fed by the G-E steam turbine—are Byron J. Fish (right) plant engineer, and E. C. Phillips, G-E textile-mill specialist.

RANGE DRIVES
for Textile Mills

Here's a way to increase your workers' efficiency! Give them more motor "know-how" with General Electric's new Motor Selection and Application Course. It's one of G.E.'s "More Power to America" visual programs, and shows how motors work, types now in use, and how to select and apply them for specific jobs. Bulletin GEA-4938-16 describes the course in full. Write for it—now!



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To keep your weaveroom a front-running competitor, it takes conditioning . . . *careful* conditioning.

And that means keeping your C&K Looms running up to their original form . . . with C&K Parts.

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or how NULLAPON *came to the rescue*

Records show that Special Sequestering Agent Nullapon has devoted a lifetime career to rounding up the Trace Metal Gang. The crime—sabotaging textile processing operations. Special Agent Nullapon works this way:

- Retards rancidity in fatty products used in processing.
- Softens hard water.
- Solubilizes dyes and pigments.
- Improves rubbing fastness for Naphtol dyeings.
- Removes lime soaps from textiles.
- Removes metals and metal stains from fabrics.
- Aids dyeing with metal-sensitive dyes and hard water sensitive vat dyes.

If the Trace Metal Gang is operating in your plant, call upon Nullapon immediately. For Technical Bulletin—and for information regarding test kits to determine water hardness—please call or write.

Nullapon—Reg. U. S. Pat. Off.

The
TRACE METAL GANG

Ca—alias Calcium	Pb—alias Lead
Mg—alias Magnesium	Ni—alias Nickel
Fe—alias Iron	Zn—alias Zinc
Cu—alias Copper	Cr—alias Chromium

NULLAPONS

BFC	BFC Conc.	BFC Conc. Bead
BFC Liquid	FAS Liquid	FE Liquid

gdc ANTARA gaf

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In the New Year may we,
with increased determination, travel
the Road that preserves our freedom
of worship, guards our privilege
of free speech and guarantees
our economic freedom.

HOWARD BROS. MFG. CO. WORCESTER 8, MASS.

Harry C. Bodey
President

Since 1883

FOR REALLY *TOUGH* PAINT JOBS

TROPICAL

heavy-duty MAINTENANCE PAINTS

Do you have a really tough maintenance paint job? To thousands of maintenance men and plant managers just such a problem paint job was their first introduction to the remarkable durability of Tropical paints . . . which are formulated strictly for heavy-duty maintenance service. There is a complete line of fresh-mixed Tropical paints, each designed to give superior performance. Whether the application must resist acid fumes, alkalis, rust or heat—on metal, masonry, wood or concrete—on floors, walls, ceilings, roofs, machines or equipment, the right Tropical paint has proved it can do the job better! To select the right paint for the job, in the right quantity, and for correct method of application, use the expert service of the Tropical maintenance paint specialist in your community. Write us today!

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MAKERS OF Bonderite QUALITY CORROSION RESISTANT

ALMOST 1/3 OF U. S. TEXTILE PLANTS use TROPICAL!

. . . on dye sticks, poles, trucks, bins, bobbins, drying reels, calendars, tenter frames, dye kettle interiors, acid vaporizing tanks, inspection tables, skein extractors, shrinking tables, twister rolls, oven trays and loom harness. Wherever chemicals, rust and moisture quickly destroy ordinary maintenance paints, Tropical stands up and gives extra service. And for smooth, snag-proof, lint-free surfaces, Tropical has the answer!

FREE! **Send for your copy of the "Industrial Paint Index"—a quick, convenient reference chart for a multitude of maintenance paint applications.**

TROPICAL PAINT & OIL COMPANY • 1120-1300 West 70th St., Cleveland 2, Ohio

How can you be sure you're getting the most lap-resistant cover?

One sure way to find the most lap-resistant cot is, of course, to try all the new covers in your mill. A short cut to the same result may be found, however, in a simple laboratory test. It's an accelerated test that takes only seconds to perform, yet its results have been confirmed time after time by actual mill experience.

Here's how the test works. First, the cot to be tested is put on a frame section from which both the scavenger roll and clearer have been removed. An end is put up and the frame operated at many times its normal speed.

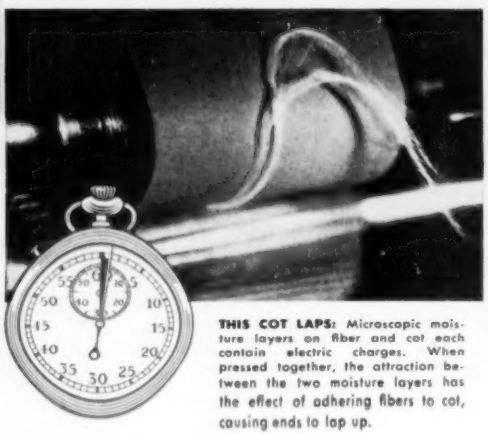
A technician then breaks the end and, with a stop watch, times how long the cover lets the end run before picking it up. Eventually, air currents and other factors will cause the end to lap up on any cover. But, obviously, the longer the end runs free, the better chance it would have in a mill of going down on the scavenger roll . . . and so, the better the lap resistance of the cover under test.

In hundreds of such tests, Armstrong's Accotex Covers consistently prove to have more lap resistance than any other cover tested.

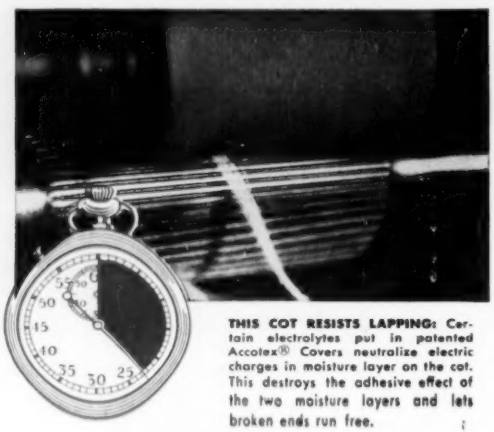
The reason? Accotex Covers are made with an exclusive formula. Each Accotex Cover contains certain "electrolytes" . . . special patented ingredients that eliminate the principal cause of lapping . . . the normal attraction between fiber and roll cover.

Final proof of these covers is the testimony of hundreds of mill men across the country who tell us that Accotex Roll Covers are the most lap resistant they can put on their frames.

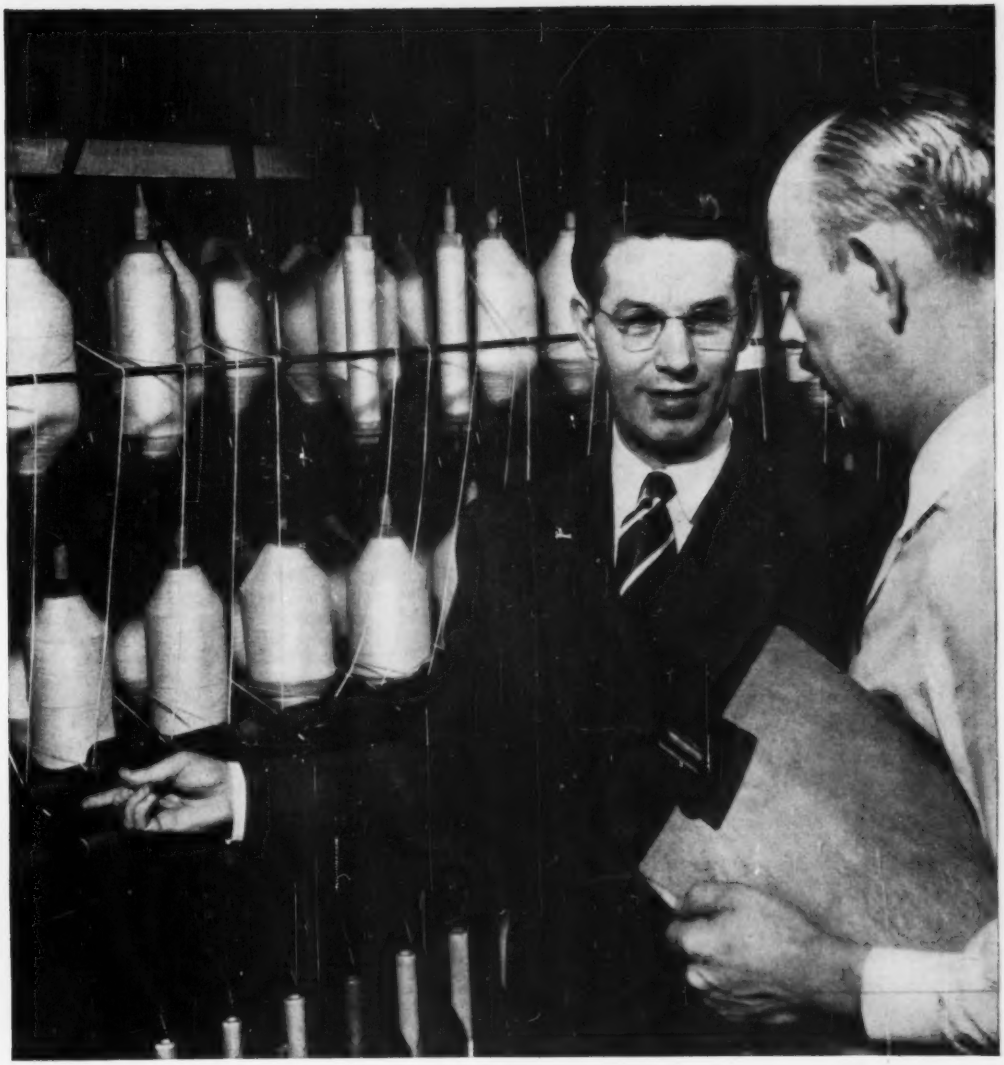
Armstrong makes a complete line of patented Accotex covers. Whether you spin cotton, wool, synthetics, or blends, your Armstrong representative can suggest the right lap-resistant cover for your work. Call him today or write Armstrong Cork Co., Textile Products Dept., 8301 Arch St., Lancaster, Pa., Available for export.



THIS COT LAPS: Microscopic moisture layers on fiber and cot each contain electric charges. When pressed together, the attraction between the two moisture layers has the effect of adhering fibers to cot, causing ends to lap up.



THIS COT RESISTS LAPPING: Certain electrolytes put in patented Accotex® Covers neutralize electric charges in moisture layer on the cot. This destroys the adhesive effect of the two moisture layers and lets broken ends run free.



WHEN AN END BREAKS, will the cover let the yarn run free long enough for it to go down on the scavenger roll? Tests in our laboratories, backed by mill experience, show that many covers will not. They lap up within a split second. On the other hand, Armstrong's Accotex Cots consistently let broken ends run longer than other covers tested and so reduce lapping to an absolute minimum.

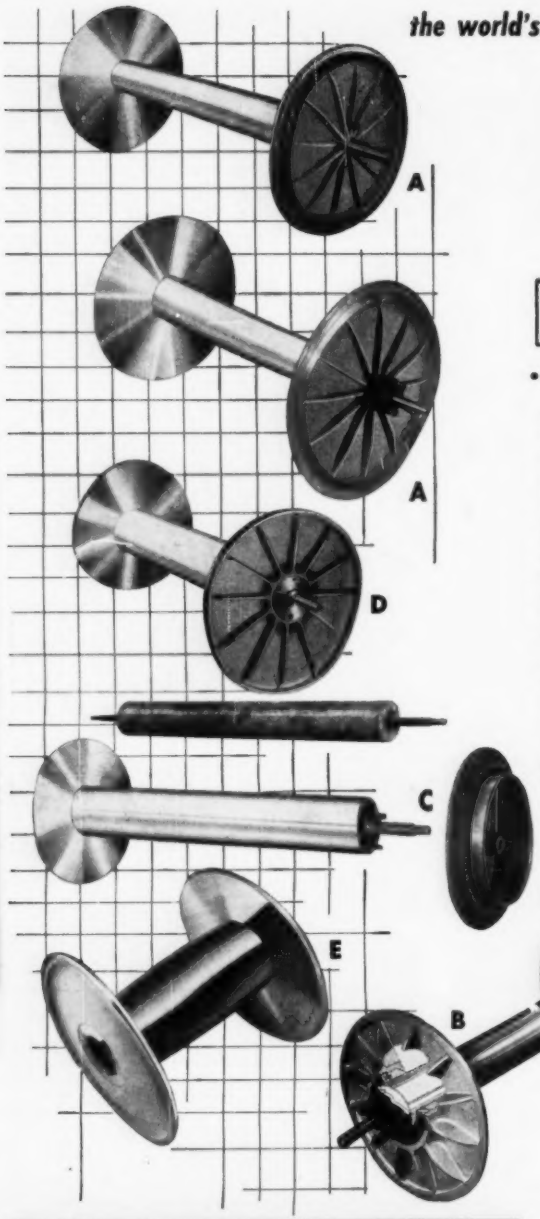
ARMSTRONG'S ACCOTEX COTS

the world's largest producer of light metal beams

HAYES

gives you modern

beam engineering



Hayes Engineering facilities are the result of more than 17 years experience in designing and fabricating light metal products. Hayes experience in designing and fabricating, has produced textile beams that are light in weight, true-running and perfectly balanced to give you the greatest possible accuracy in weaving. Working surfaces are machined to precise limits of size and run-out and are highly polished and waxed. They are rust proof, warp proof, splinter-free and require no special maintenance. Hayes design, correct engineering and true running balance, together with the mirror-smooth surfaces which are possible by using light metals—result in a smooth high-speed operation, which produces better selvages and reduces rejects to a minimum.

Thousands of Beams are shipped each year, but demand far exceeds the supply. In fact, to make delivery of some items, more than six months are required, and in fairness to our customers, orders must be filled in the sequence they are received. We will do our best to fulfill your requirements and welcome your inquiries.

HAYES MODERN PLANT FACILITIES PRODUCE

A. Light Metal Loom Beams

B. Light Metal Adjustable Loom Beams

C. Light Metal Replacement Loom Beam Barrels

D. Light Metal Section Beams

E. Light Metal Tricot Beams

• • • • • • • • •

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INDUSTRIES, INC.,
JACKSON, MICHIGAN

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for wool

PALATINE FAST DYESTUFFS GIVE MORE PRODUCTION WITH LESS MANPOWER

. . . are fast to light, washing, perspiration, crocking, sea water and wear.

. . . are level dyeing on mixed wool and carbonized goods without neutralization — with excellent penetration. Most types are dischargeable with Rongalite.

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. . . on wool-nylon mixtures they produce good tone in tone dyeings of very good fastness to light and washing.

. . . samples of Palatine Fast Dyestuffs can be procured from our nearest sales office.

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Protection against mildew

Adequate moisture regain

Yarn lubrication

Sets twist

IN DOLLARS
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TYGON PAINT OFFERS "Down the Shelf" RESISTANCE

That's right!! TYGON PAINT offers "down the shelf" resistance — resistance to acids and alkalies alike. Many coatings offer acid resistance, some offer alkali resistance — but, in TYGON you get both — plus resistance to oils, greases, water, and many solvents.

Just stop and think of the number of different chemicals used in your plant every day. Then, think of the advantages of having one coating — TYGON PAINT — to provide the multiple resistance required. Think of the complete protection — the savings in time and money — the minimum inventory — the convenience assured by using just one positive protective coating, by using TYGON PAINT.

"Down the shelf" resistance is particularly important in the textile field where defense is needed against an array of chemicals which includes chlorine and bleaching solutions, sulfuric acid, iron sulfate, salt, caustic soda, soda ash, stannic chloride, sodium silicate, malt, tannin, resorcine, diazo compounds, animal and vegetable oils, fats and greases.

Wash tanks, kiers, steeping tanks, mercerizing units, "jigger machines", dye vats, continuous dye machines, filters, and pumps are typical of the textile finishing equipment that can be fully protected against corrosive fumes and spillage with TYGON PAINT. Structural steel, piping, walls and ceilings also benefit from TYGON protection.

In addition to its unusually high chemical resistance, TYGON PAINT can be applied by brushing or spraying — requires no more than normally good surface preparation. It dries quickly and gives a tough, smooth, flexible film that's non-flammable, long-lasting and easy to clean.

Why don't you try TYGON PAINT in your plant? You'll find it an economical, efficient answer to those troublesome, profit-eating corrosion problems.

Don't delay, write today for full details and technical information. Ask for Bulletin 720.

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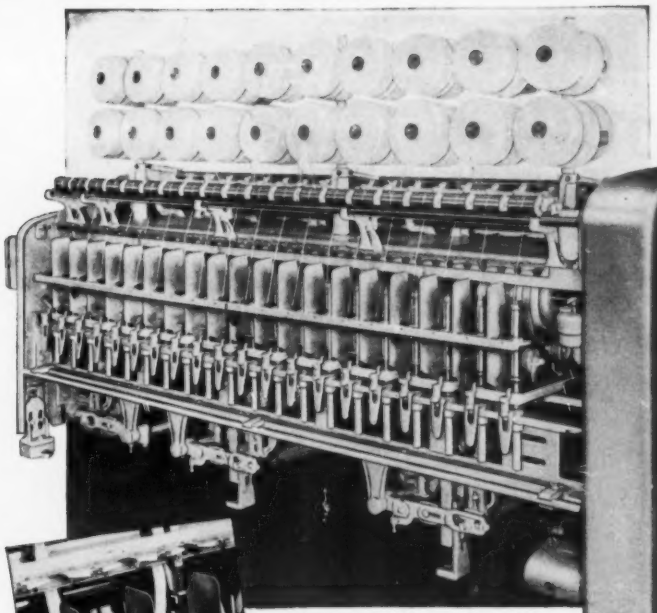
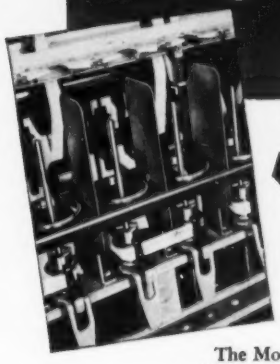




Close-up, showing slotted ring rail for separator blades, driving pulleys and shafts.

BETTER QUALITY YARN

●

LESS NOISE AND VIBRATION

●

LONGER FRAME LIFE AND LOWER MAINTENANCE COSTS

●

LESS FLOOR SPACE NEEDED

The New Whitin
MODEL "P" TWISTER
for Cotton and Spun Rayon Yarns

The Model "P" Twister is Whitin's newest addition to an already diversified series of ring twisters for cotton and other fibers. It is a proven machine having many new features which will be welcomed by both management and operators alike.

The line followed by the thread from the front bottom roll to the thread guide is almost vertical. This insures more uniform yarn tension, longer guide life and *better quality yarn.*

Spring counterbalancing of the ring rail eliminates dead weighting, insures smooth action of the rail and reduces wear on the builder and lifting mechanisms.

The ring rail support bracket traverses on a stationary rod placed in back of the spindle rail. This results in extremely rigid construction, lessens the possibility of yarn contamination from contact with the lifting rods and *reduces vibration to a minimum.*

Extra heavy cast iron frame construction, driving pulleys mounted on a through shaft and laminated bakelite gears meshing with metal gears in the head end, all combine to cut down noise and vibration, *lower maintenance costs* and insure *longer frame life.* Only 39" wide, the Model "P" Twister *requires a minimum of floor space,* yet provides adequate room for efficient creeling.

If you sell your yarn on a *quality* basis, you should investigate the new Whitin Model "P" Twister.

For complete details, call your Whitin representative or write for our descriptive folder.

Whitin MACHINE WORKS

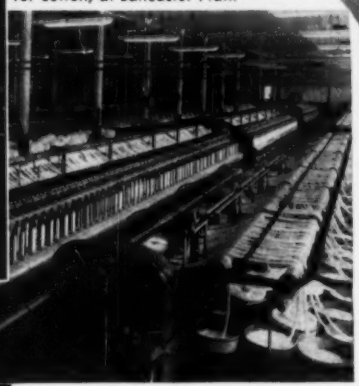
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, N. C. • DEXTER, ME.

LEADING MILLS Make Better Yarns on H&B Machinery

SAXON MILLS
H&B High Draft Slubbers
with scroll condenser
at Spartanburg, S. C.

SPRINGS COTTON MILLS
H&B Casablancas Hi-Draft Spinning
for cotton, at Lancaster Plant



GREER PLANT, Victor Monaghan Co., Div. of J. P. Stevens & Co., Inc.
H&B Casablancas S-3 Spinning for long staple synthetics

DIXIE MERCERIZING CO.
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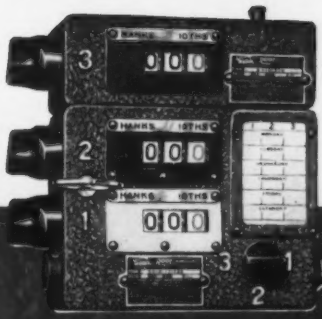
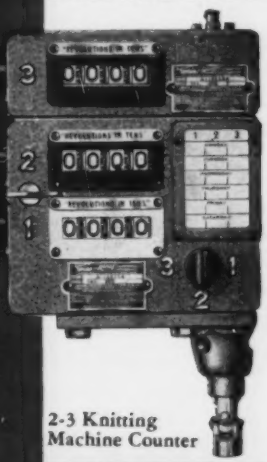
General Purpose Counter



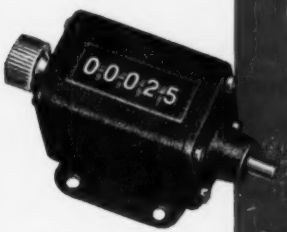
2-3 Hank Counter

Double-Wheel Linear Counter

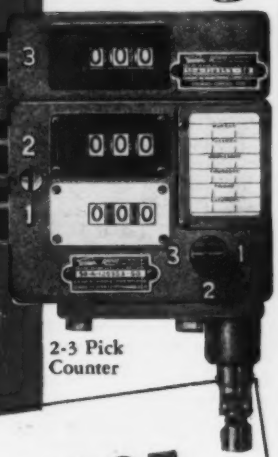
Magnetic Counter



2-3 Knitting Machine Counter



Small Reset Counter



2-3 Pick Counter

Loom Cut Meter

For Competent Sales Engineering and Factory-Expert Service

. . . count on

VEEDER-ROOT

World's Largest Manufacturers of Counting Devices

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"Counting House of the Textile Industry"
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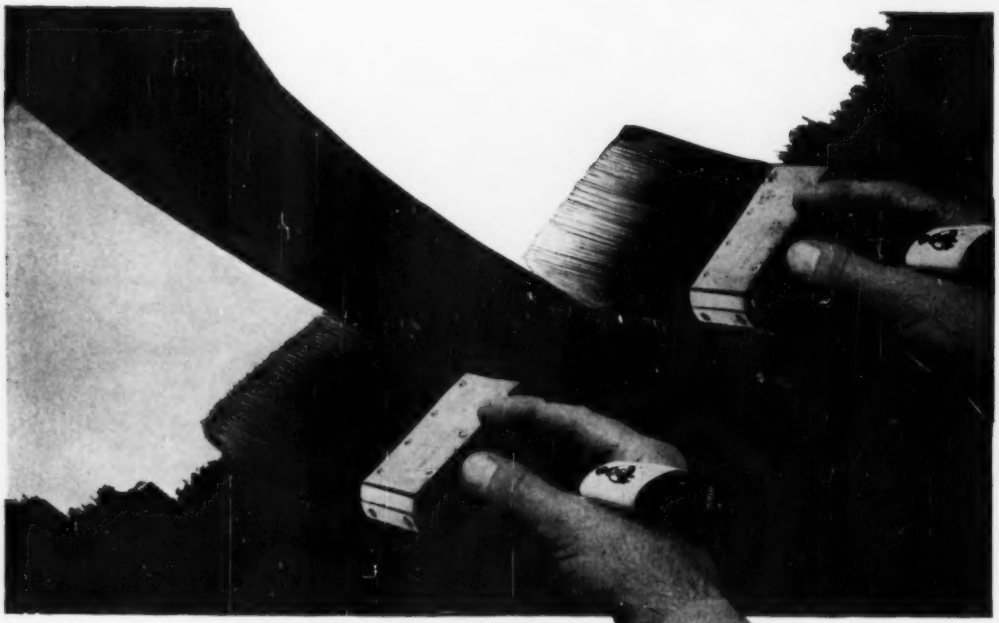
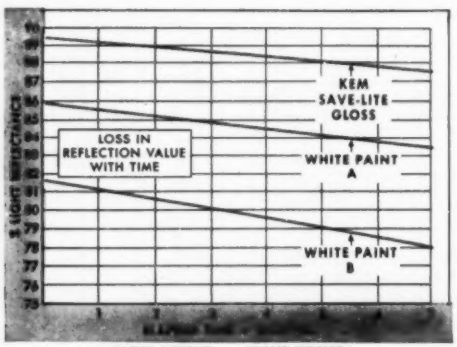


MAKE THIS TEST

before you paint your plant!



STARTS WHITER . . . STAYS WHITER!

Note how the whiteness, or reflective value, of Save-Lite *starts* higher than conventional finishes when first applied, and *continues* higher, as time goes on. This means *longer* intervals before repainting is required.

Compare KEM SAVE-LITE with ordinary whites

SEE why it stays cleaner—longer!

See for yourself the difference there can be in the whiteness of "white" finishes . . . even when they are first applied! Make a side-by-side comparison of KEM SAVE-LITE Mill White against conventional white finishes on any wall surface in your plant.

You can see the difference, from the start, in gleaming, brilliant whiteness...a difference because of the *controlled*, light-reflective properties that are designed into SAVE-LITE Mill White Finishes.

KEM SAVE-LITE *starts* whiter . . . KEM SAVE-LITE *stays* whiter, as the actual light reflectometer measurements in the comparative chart show. You'll find these same properties, too, enable it to hide better and cover farther! Call your Sherwin-Williams representative today for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, O. (Division Offices, Charlotte, N. C. and Boston, Mass.)

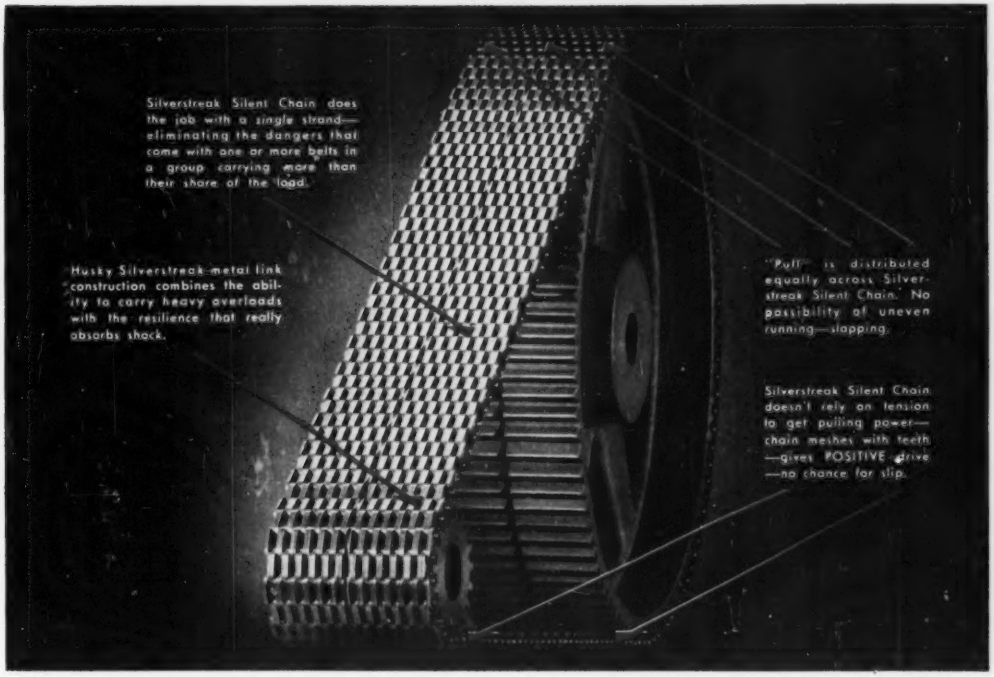
SHERWIN-WILLIAMS

INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES

MILL VILLAGE PAINTS

Get full rpm transmission...


Silverstreak Silent Chain does the job with a single strand—eliminating the dangers that come with one or more belts in a group carrying more than their share of the load.
Husky Silverstreak-metal link construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.
"Pull" is distributed equally across Silverstreak Silent Chain. No possibility of uneven running—slapping.
Silverstreak Silent Chain doesn't rely on tension to get pulling power—chain meshes with teeth—gives POSITIVE drive—no chance for slip.

LINK-BELT Silverstreak Silent Chain Drives

Slip-proof
Slap-proof
Shock-proof

TAKE the proven road to increased production — through the best in high-speed power transmission. You'll find Link-Belt Silverstreak Silent Chain Drives are 98.2% efficient. With normal maintenance, you have a *positive* drive that runs for years and years.

And note this important point — on extremely short centers Silverstreaks lose none of their efficiency. What's more, reduction ratios as high as 10-to-1 are frequently used. Both of these Silverstreak features save you valuable space.

One test will prove to you why thousands of production-minded engineers have standardized on Link-Belt Silverstreak Silent Chain Drives.

LINK-BELT

12,200

SILVERSTREAK SILENT CHAIN DRIVES

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices in principal cities.

Life-Line AV
Adjustable Speed Drive
SPEED
Remote Control
Pushbutton Station
DO NOT
LUBRICATE
Life-Line D-C
Driving Motor

AV Adjustable Speed Drive

speed control of d-c motors from a-c line

You get precise control from a-c power with the Life-Line AV Packaged Drive. Adjustable speeds —through a 20 to 1 range—may be preset before motor is started *or* changed after motor is running. You can start the motor, stop it, or change the speed all from a remote control station.

Pictured at the left are the three basic parts of this Life-Line AV drive. Notice the cabinet. In the lower section you'll see the Life-Line motor-generator set. It's completely pre-lubricated to eliminate faulty lubrication maintenance.

Installed in the upper half of the cabinet are all the controls and motor protection. Choice of electronic or selenium exciter provides wide flexibility in applications. Complete overload and undervoltage protection are included. Complete unit is factory wired and ready for installation.

The driving motor is the SK d-c motor with many of the Life-Line features. Smaller sizes have pre-lubricated bearings proved in every phase of industry.

Wherever you must have precise control with only a-c power available, you'll find this Life-Line AV Packaged Drive ideal. You get the complete drive—no extra control to buy. You get a compact, neat installation. You get undivided responsibility. Westinghouse is responsible for the package.

Today is the time to get more from your machines. Let this AV Drive help you do it. Ask your Westinghouse representative for complete information, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-21636

YOU CAN BE SURE... IF IT'S

Westinghouse

Life-Line

MOTORS and CONTROLS

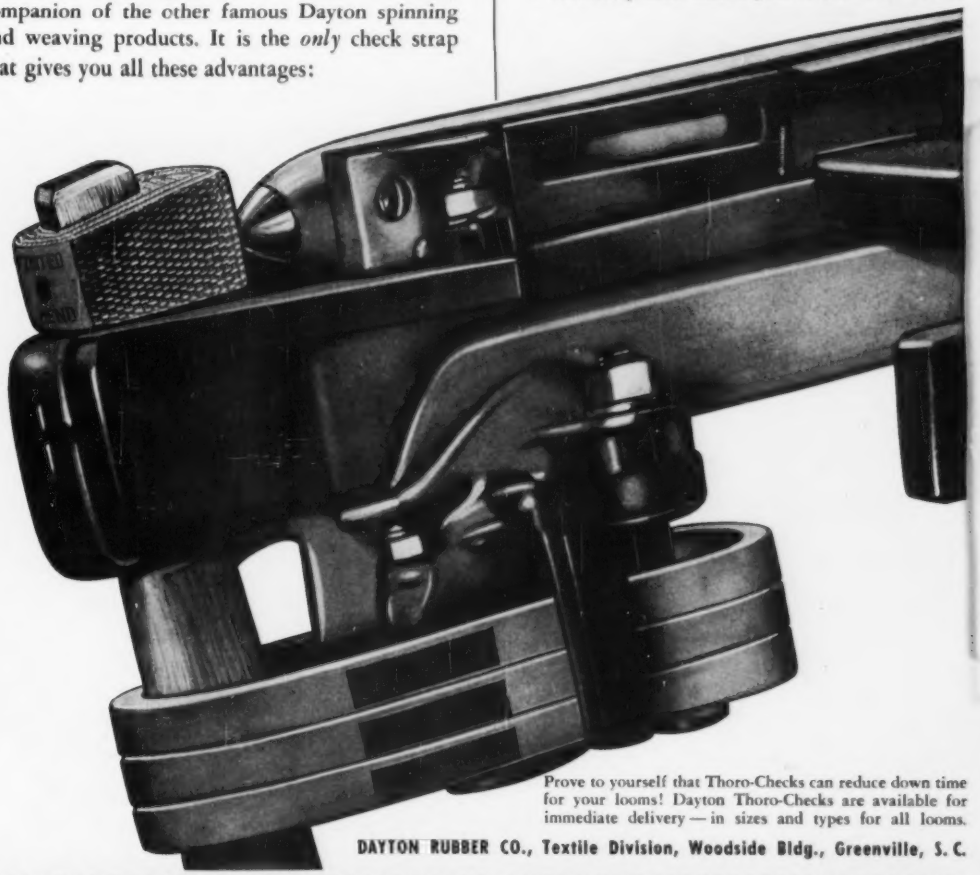
Here it is—

THE GREAT NEW DAYTON THORO-CHECK

It's today's biggest news in weave rooms—a completely *new* check strap, with all the long-life features you'd expect from the makers of the famous Dayco Cot . . . Dayco Long Draft Apron . . . Dayton Thorobred Pickers . . . Thorobred Lug Straps! Scientifically designed to provide properly cushioned snubbing action, the Dayton Thoro-Check gives maximum protection to shuttle, binder, picker, and picker stick. How does it *wear?* Actual weave room use shows it outlasts other check straps by 25% to 50%!

Yes, the new Dayton Thoro-Check is a worthy companion of the other famous Dayton spinning and weaving products. It is the *only* check strap that gives you all these advantages:

- *Gives greater picker and shuttle life*
- *Protects binder and picker stick*
- *Outlasts other check straps by 25% to 50%*
- *Rubberized fabric construction — no elongation*
- *Smoother checking — carefree operation*
- *Unaffected by temperature or humidity*
- *Individual or multiple replacement*
- *Famous Dayton precision construction*
- *Proved by more than a year of weave room use*



Prove to yourself that Thoro-Checks can reduce down time for your looms! Dayton Thoro-Checks are available for immediate delivery — in sizes and types for all looms.

DAYTON RUBBER CO., Textile Division, Woodside Bldg., Greenville, S. C.

Dayton Rubber

next Tuesday morning

you may need this spare part *urgently* in your card room.

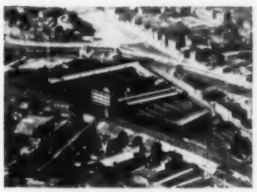
Yet this gear, along with hundreds of other parts, can be purchased *ahead of emergencies* . . . can free you from hours of potential down time losses.

★ If you own D & F equipment we can supply you with D & F spare parts *now*, correctly and quickly, *ahead of emergencies*. Phone or write, north or south.

DAVIS & FURBER
MACHINE COMPANY
NORTH ANDOVER, MASS. • CHARLOTTE, N. C.

WOOLEN CARDS • SPINNING FRAMES • PICKERS • SHREDDERS
NAPPERS • CARD CLOTHING • PLASTIC AND LEATHER TAPES

MARCINELLE—Plant No. 1



MARCINELLE—Plant No. 2

RUISBROEK

HERSTAL

ACEC

electric motors

are backed by 70 Years' Designing & Engineering Experience plus 4 Modern Plants

Four up-to-the-minute plants, utilizing the accumulated engineering and manufacturing experience of seven generations to produce the finest type electrical equipment, that's ACEC—Ateliers de Constructions Electriques de Charleroi, of Belgium.

And world-famous ACEC motors—from ¾ to 200 hp.—are now *immediately available* to American customers from warehouse stocks in the United States.

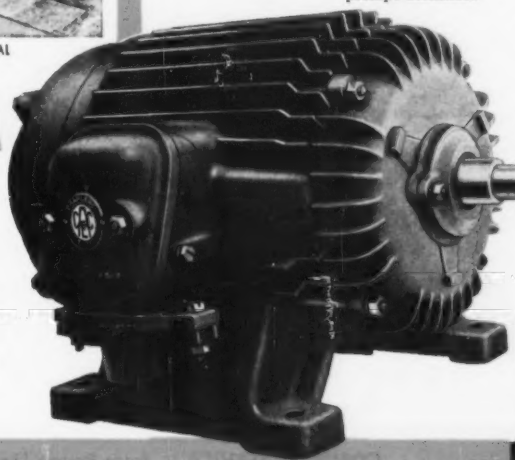
Conforming strictly to NEMA FRAMES AND SPECIFICATIONS, these 1-phase and 3-phase motors are not only products of long experience and scientific research, but of extreme care in manufacture and close attention to mechanical precision. They are built to give every possible satisfaction in service . . . to uphold the world-wide reputation for excellence that ACEC equipment has established.

Branches and representatives of ACEC are located throughout 50 countries, and service in the United States is available from 232 DISTRIBUTORS AND SERVICE SHOPS across the nation.

Whatever your electric motor requirements, write, wire, or telephone the nearest ACEC office or representative—or communicate with us directly in New York. Inquiries and orders receive prompt attention.

IMMEDIATE DELIVERY

from
NEW YORK
CHICAGO
KANSAS CITY
NEW ORLEANS
DALLAS AND
LOS ANGELES
Warehouses



NOW ON HAND

Integral Horsepower Electric Motors—
¾ to 200 hp.
FULLY GUARANTEED

Available in the following types:

- ★ *Open Drip Proof Motors*
- ★ *Totally Enclosed Fan Cooled Motors*
- ★ *Pump Motors:*
  - *Style "C" Face Mounted*
  - *Style "P" Vertical Solid Shaft*
  - *Vertical Hollow Shaft*
- ★ *Adjustable Speed Schrage Motors*

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Sole representatives of
ATELIERS DE CONSTRUCTIONS ELECTRIQUES de CHARLEROI
Electrical Engineers and Manufacturers

CHARLEROI ACEC

 For more information, write direct or use Reader Service post card.

No Place for LINT

IN THIS MOTOR!

ALLIS-CHALMERS Quick-Clean MOTORS

LINT CAN'T GIVE YOU MOTOR TROUBLE when you use *Quick-Clean* Textile Motors because these motors are built to operate in the thickest atmosphere without being affected by lint and dirt.

Quick-Clean Motors are equipped with sealed bearings which are not affected by lint, require no periodic maintenance and will not leak grease to collect lint or soil materials. For more details on why *Quick-Clean* Motors are better for your mill, call your nearby Allis-Chalmers Authorized Distributor or District Office or write Allis-Chalmers, Milwaukee 1, Wisconsin for the bulletins shown below.

A-3576

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

1.

LARGE AIR INLETS

supply plenty of fast-moving air to carry air-borne lint and dirt right through the *Quick-Clean* Textile Motor. All corners are rounded and surfaces smoothed so that lint cannot catch or settle. Bearing end shields are open all around except for bearing cap support ribs.

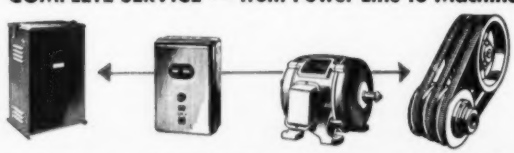
MATCH QUICK-CLEAN MOTORS WITH A-C STARTERS!

This control was developed for dependable, safe starting of *Quick-Clean* motors. Other Allis-Chalmers motor control will give you dependable operation of all electrical equipment in your plant. Competent application engineers are always available through your nearby Allis-Chalmers Sales Office.

Send for Free Literature

Quick-Clean Textile Motors	51B6055
Texrope Drives	20B6051
Vari-Pitch Sheave	20B7499
Dielectric Heater	15B6431
Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment	25B6150

COMPLETE SERVICE — from Power Line to Machine



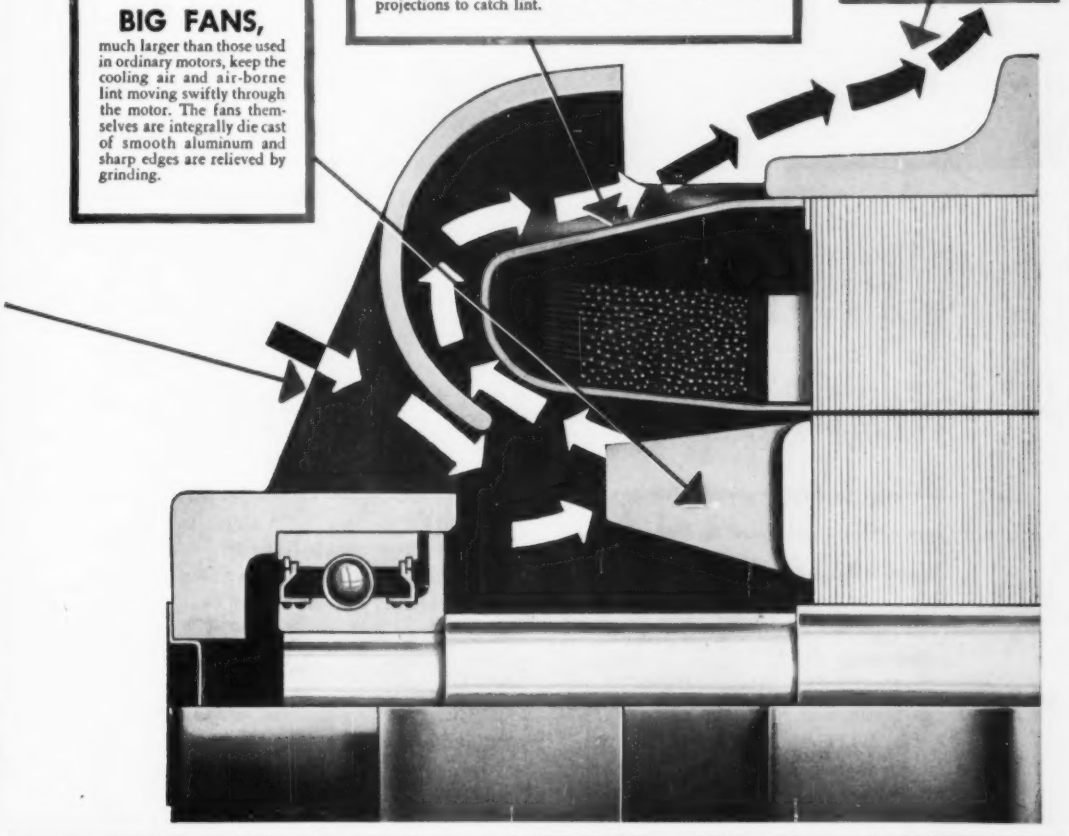
Transformers — Motor Control — Motors — *Texrope* Drives

to Hide

2.
BIG FANS,
much larger than those used in ordinary motors, keep the cooling air and air-borne lint moving swiftly through the motor. The fans themselves are integrally die cast of smooth aluminum and sharp edges are relieved by grinding.

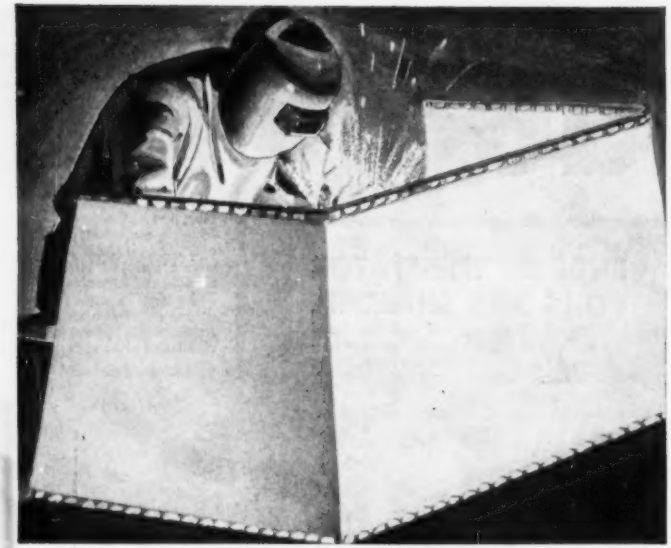
3. ENDS OF THE STATOR COILS ARE SHIELDED.
Bakelite shields completely enclose coil ends and blend smoothly, with the help of plastic cement, into the contours of the frame. As a result, there are no pockets or projections to catch lint.

4.
AIR OUTLETS ARE LARGE.
Except at supporting ribs, the circumference of each end shield is open. End shields and yoke are shaped to aid air flow and keep air velocity high. Central rib directs air stream away from motor to prevent recirculation of heated air.



ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry



Industrial fabrics woven from Fiber·Glass are fire-safe, strong, rot- and mildew-proof. Among the many applications are tarpaulins, flame shields, airplane cloth, plastic reinforcement.

Continuous-fiber textile yarns—150 series. Glass fibers have enormous tensile strength . . . 250,000 pounds per square inch. Won't shrink or stretch. Withstand temperatures up to 800°F.

Let Libbey·Owens·Ford work with you, your way, in developing L·O·F FIBER·GLASS textile applications

L·O·F is ready to supplement your textile technology with its advanced technical glass knowledge and experience

WORKING together, textile experts and L·O·F glass scientists should be able to develop useful and profitable applications of L·O·F Fiber·Glass in the textile field.

Let's try it. L·O·F wants to work with you, learn to speak your language and become familiar with your methods. Then, L·O·F glass technologists can apply their experience and ingenuity to the problems.

Or, if your company has already discovered the exciting properties of fibrous glass for textiles, then consider L·O·F as a new source of top-quality Fiber·Glass, ready to place its facilities at your service.

For technical data, or consultation on uses of Fiber·Glass in industrial and other fabrics, call your local L·O·F office (offices in 24 major cities); or write, wire or phone Libbey·Owens·Ford, Dept. F·G 1712, Nicholas Bldg., Toledo 3, Ohio.

LIBBEY·OWENS·FORD GLASS COMPANY
FIBER·GLASS DIVISION

L O F FIBER·GLASS

FIBER·GLASS

Quality-Integrity

AHCOVATS

For the fastest results in bright, rich yellows, greenish yellows and browns.

AHCOVAT FLAVONE GC · AHCOVAT GOLDEN YELLOW GK

AHCOVAT DARK BROWN BR · AHCOVAT DARK BROWN 6R

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Associated with Imperial Chemical Industries Ltd.
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ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815 • PROVIDENCE, R. I.
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Autofill winding filament rayon from magazine cone supply

A bad beginning never makes for a good ending. If your filling bobbins are full of hollows and ridges and if your yarn has been frayed by builder wheels on the winder, you simply can't produce a first class fabric and your weaving costs are multiplied.

You can greatly improve the quality of your fabrics and reduce your cost of weaving by using Foster-Muschamp Autofill Winders (fully automatic). This is because the Autofill does NOT use a builder wheel. It determines the lay of the yarn on the bobbin by means of gears rather than friction wheels and produces a precision wound product which is entirely free of hollows, ridges and filaments broken due to builder wheel friction.

Result—a much better fabric at much less cost.

You want better weaving at less cost on all your fabrics, of course, but it is particularly important if you are weaving fine denier yarns, such as 30 denier nylon. In such cases, because your materials cost is high, losses due to damage become astronomical.

Get all the facts about the Foster-Muschamp Autofill. Send for Bulletin M-1 today.

FOSTER MACHINE COMPANY

Westfield, Mass., U. S. A.

Southern Office—Johnston Bldg., Charlotte, N. C.

Whether you want one worm-gear speed reducer or a thousand, a standard drive or a unit designed to meet special problems, Cleveland can serve you better.

"Cleveland" is the standard in worm gearing

● When you specify "Clevelands—or equal," you can be confident that you are getting the finest in worm-gearing.

The uniform dependability that has distinguished Clevelands through 38 years has established "Cleveland quality" as the measure of value in worms and gears. Cleveland sets the pattern through four outstanding features:

1. *Correctness of design*—proved by years of performance.
2. *Finest of materials*—selected on the basis of long experience and research.
3. *Modern manufacturing facilities*—kept up-to-date by a policy of continuous replacement.
4. *Precision workmanship*—by machinists and other production workers, trained as craftsmen.

Cleveland offers a complete line of worm gear sets and speed reducers, including the popular fan-cooled Speedaire —to meet the needs of any machinery or equipment builder or user. Representatives in all major industrial centers are at your service. Write for our current catalog.

The Cleveland Worm & Gear Company, 3268 East 80th Street, Cleveland 4, Ohio.

Affiliate: The Farval Corporation, Centralized Systems of Lubrication. In Canada: Peacock Brothers Limited.

 For more information, write direct or use Reader Service post card.

Carpenter's New Slide Chart Gives Data on Stainless Tubing

Bending information for Stainless Tubing and Pipe shows desirable radii for bends of 45° to 180°.

Coil diameters for Stainless Steel Pipe from ⅛" to 4" are given in easy-to-use form.

The Carpenter Stainless Tubing Slide Chart gives you data on Analyses, Standard Sizes, Bends with and without Mandrels, Tensile Strength, Rockwell Hardness, Heat Resistance, etc.

DESIRABLE BENDING and COILING RADII for
Carpenter STAINLESS TUBING and PIPE
THE CARPENTER STEEL COMPANY
ALLOY TUBE DIVISION • UNION, NEW JERSEY

If you would like a copy of this useful Slide Chart published by Carpenter, just drop us a note on your company letterhead. We'll be glad to put one in the mail for you.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.
Export Department: Carpenter Steel Co., Reading, Pa.—"CARSTEELCO"

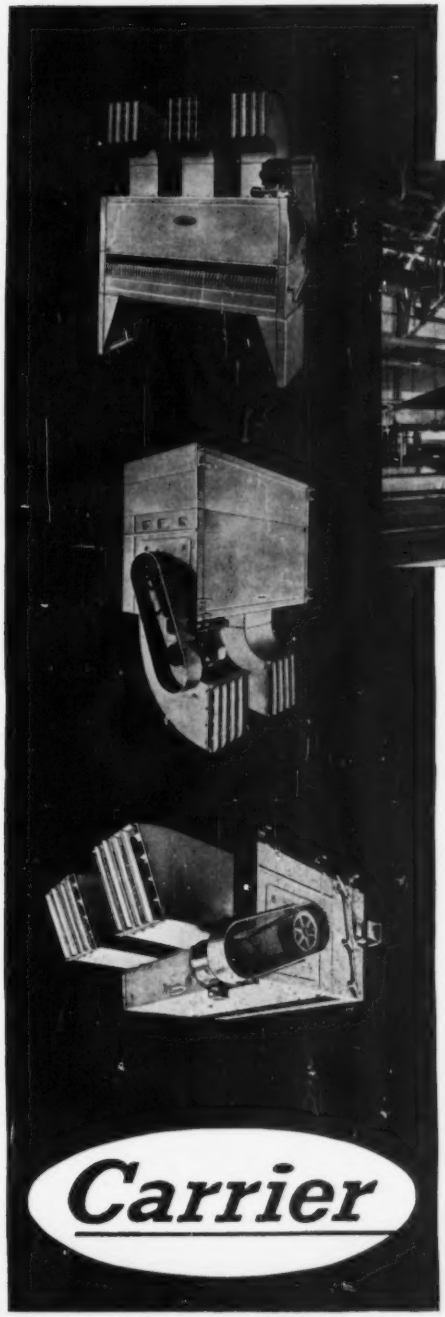
Carpenter
STAINLESS TUBING

Analysis — Tolerance — Finish

— guaranteed on every shipment

For more information, write direct or use Reader Service post card.

How to keep a dyehouse dry



Any kind or size of job is made to order for Carrier heating equipment. Here's one example.

DRY — that's the way your dyehouse must be. And that's the way Carrier blower-type Heat Diffusers keep it. No damaging condensate on walls, no fog, no damp spots. Carrier Heat Diffusers bring in outside air, warm it to exact temperatures and circulate it to every corner of the dyehouse. An important job — done with typical Carrier efficiency and economy. *Write Carrier Corporation, Syracuse 1, N. Y., for the catalog, "Air Conditioning for the Textile Industry."*

Carrier Blower-type Heat Diffusers 46P, Q, R will do the same thorough job anywhere else in your mill, too. They're built in sections, install easily, are quickly altered to keep up with changing needs. Floor, wall or ceiling mounted. Multiple discharge outlets with adjustable louvers send out warmed air in just about any direction. 7 sizes, to 1,720,000 Btu's, with air-handling capacities from 4000 to 25,000 cfm. Steam or hot water. *The Carrier name:* your guarantee of low-cost, reliable heat and dependable service always.

The Industrial Heating Equipment Industry is proud of the recognition accorded it by the armed services and procurement departments of the United States Government. Proven in grueling use during World War II, industrial heating units are now standard equipment in ships, plane hangars, living quarters, garrison buildings—wherever reliable, efficient heat is necessary for the completion of a task or the well-being of our fighting forces. On the home front, industrial heating units serve equally important roles in industrial plants producing war material supplying the needs of the allied forces.

AIR CONDITIONING · REFRIGERATION · INDUSTRIAL HEATING

INTERCHEMICAL

Your Most Logical Source
for the Finest Textile

Colors

INTERCHEMICAL CORPORATION

Textile Colors Division

Rock Hill, S.C. Hawthorne, N.J. Pawtucket, R.I.

Aridye PIGMENT COLORS
Reg. U.S. Pat. Off.

Interchem Dyes
Reg. U.S. Pat. Off.

10 Interchem Acetate Dyes

EXCEPTIONALLY VERSATILE

For Both Printing and Dyeing!

FOR PRINTING

All are non-subliming... non-specking... equally suitable for machine or screen work... on satin, twill, crepe and other acetate and nylon fabrics.

FOR DYEING

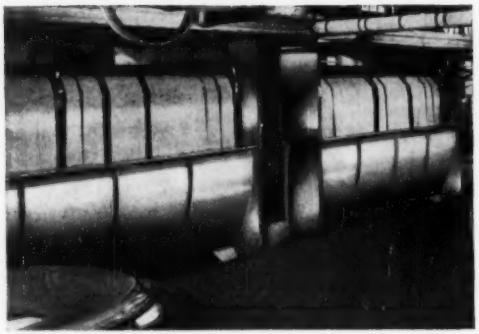
All are outstanding for dispersibility... level dyeing... pile-on... exhaustion... equally suitable for jig or box work as self or compound shades on acetate, nylon and other fabrics.

It'll pay you to get the facts now! Write or phone our nearest office today for full information. Interchemical Corporation, Textile Colors Division, Hawthorne, N. J.

10 Interchem Acetate Dyes

Orange 4R
Scarlet GC
Red RN
Pink 3B
Rubine 3B
Green-Blue ALF-40
Blue RLF-40
Yellow GLF-40
Yellow RLF-40
Yellow HDLF-40

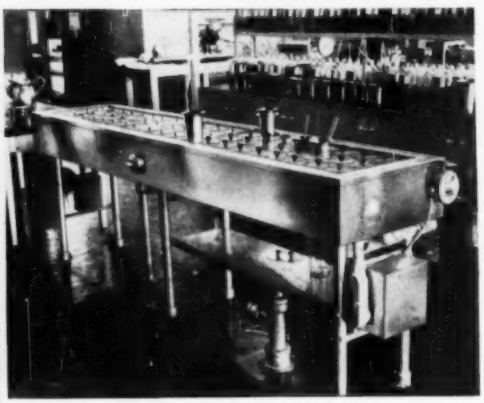
How Stainless Steel Equipment PAYS FOR ITSELF



No matter how large or small the equipment, *operating and maintenance savings alone* generally pay the bill for Armco Stainless Steels.

For example, in 1939, a southern piece-dyeing mill replaced 12 wooden vats with six new stainless steel machines. Production *went up;* man-hours were saved.

Result: Operating and maintenance savings totaled about $10,000 the first year—and savings are still going on.



Sixteen years ago another mill changed to stainless steel for dye pots and tables. This is the record of savings—based on service life of 20 years:

ANNUAL COST OF LABORATORY STAINLESS STEEL DYE POT TABLE VS. OTHER METAL

	Other Metal	Stainless Steel
Initial Cost Including All Accessories (Based on service life of 20 years)	$18.00	$32.50
Replacement of Parts (Tubs, Steam Coils & Insulation) at the end of 10 years	8.00	0.00
Normal Maintenance (Wiping Outside Surfaces, etc.)	Same for Both	
Scraping Rust and Other Corrosion Products from Inside of Tubs 1 hr. per week labor @ $1.16/hr.	60.32	0.00
Total Annual Cost	$86.32	$32.50
Est. Annual Saving when Stainless Steel is Used		$53.82

Stainless steel laboratory thermometers provide another example of small savings that add up. In one laboratory this was the score:

COMPARISON OF COST OF STAINLESS STEEL VS. CONVENTIONAL THERMOMETERS (in First Year of Textile Laboratory Service)

	Other Material	Stainless Steel
Initial Cost	$ 1.50	$ 5.00
Replacements (11) for Ordinary Material during 1st year @ $1.50	16.50	0.00
Total Cost	$18.00	$ 5.00
First Year Saving when Stainless Steel is Used		$13.00

Your equipment manufacturer will be glad to work with you when you need new stainless steel equipment. If your mill men fabricate small parts or do small maintenance jobs, you can provide the data they want in Armco's booklet, "Stainless Fabricating Tips." Write for a free copy.

ARMCO STEEL CORPORATION

1282 CURTIS STREET, MIDDLETOWN, OHIO • PLANTS AND SALES OFFICES FROM COAST TO COAST • EXPORT: THE ARMCO INTERNATIONAL CORPORATION

Ideal for BLENDS

TYPICAL SYTON APPLICATIONS IN LEADING MILLS

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to 3⅛ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, 2½% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied 1½% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

New yarn strength and uniformity... no matter what you're blending... with SYTON

Whatever you're cooking up... in the way of blended fabrics... a dash of SYTON can do wonders for it.

Mill experience across the country shows definite, measurable increases in the strength, uniformity and spinning qualities of wool blends that have been given the benefit of Monsanto's silica sol additive.

- Sytonized wool-rayon yarn is 10-30% stronger.
- Smooth rayon staple approaches the spinning behavior of serrated wool fiber when Syton is applied to control inter-fiber slippage.
- Ends down are reduced... finer counts (or equal yarn strength with *less* twist) are standard... production is improved all along the line.

What better reason to *ask today* for complete information on how mill men are stepping up their operations and cutting costs with SYTON. Syton: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS—PLASTICS
SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept.,
Everett Station, Boston 49, Mass. Desk TWT-45

Please send me information on Syton.

Name & Title _____

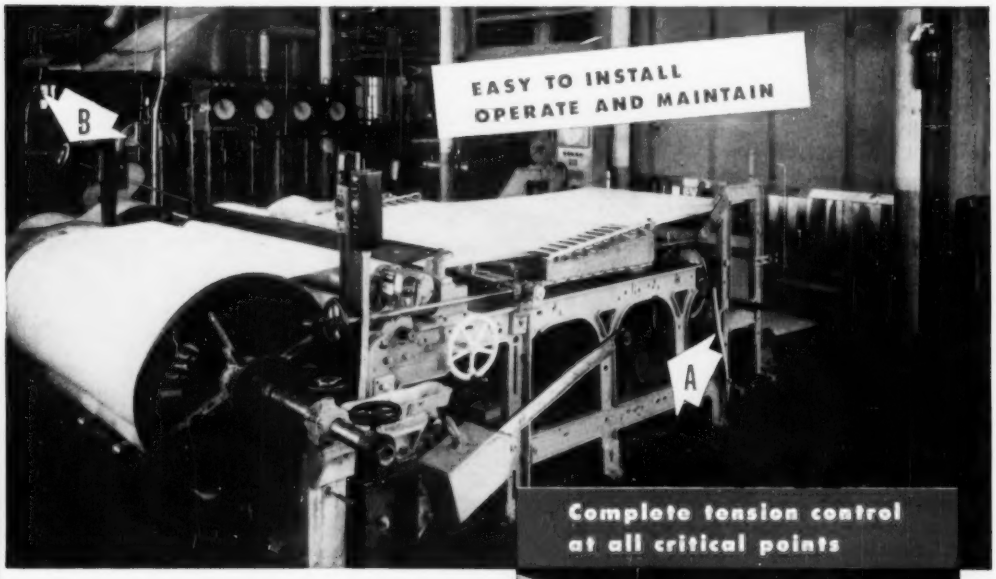
Company _____

Address _____

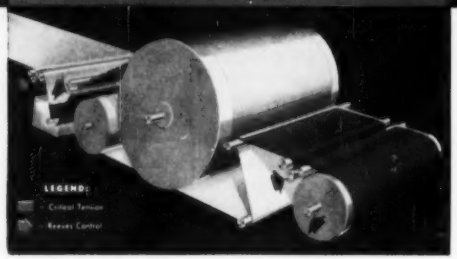
City, Zone, State _____

Build Better Beams with...

REEVES "Servo-Control" Slasher Drive



Arrow "A": The Complete Slasher Drive "nests" neatly beneath slasher head-end frame. Arrow "B": Handwheel—for setting Beam drive to maintain desired yard tension.



Add up all these quality-improving, money-saving advantages of REEVES "Servo-Control" Slasher Drive:

1 Finger-tip control from creep to run speeds by push button.

2 Smooth acceleration and deceleration through 15:1 speed range.

3 Quick, accurate, positive control of running speeds—without fluctuation—either manually or automatically tied in with moisture control.

4 Automatic, uniform tension regulation as beam builds.

5 Low initial cost; easily maintained by your mill mechanics; no complicated electrical hook-ups.

6 "Nests" under slasher head-end frame.

It will pay you to get the complete story right away. Send for bulletin No. W63b-S.

accurate · variable
REEVES *Speed Control*

REEVES PULLEY COMPANY • COLUMBUS, INDIANA
Recognized leader in the specialized field of speed control engineering

Yarn Carriers, too, are Capital Equipment

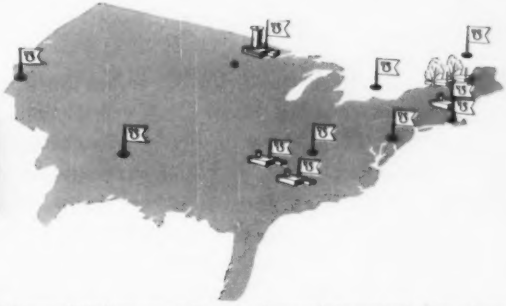
Suppose all the bobbins you buy in a year were delivered as one giant bobbin . . . and the same for all the shuttles.

You could easily see, then, why they should be classed as capital equipment. In some mills, the annual cost for yarn carriers runs to $80,000. And even in moderate sized mills, it can total more than is paid for major units of processing machinery.

You could see, also, why carriers should be bought with the same sharp eye to quality and performance that you would apply in a machinery purchase.

No mill man would knowingly handicap processing operations with yarn carriers that fail to measure up to performance standards. But he takes that chance when carriers are carelessly chosen because their *low individual cost* does not seem to warrant top management's attention.

You can be sure you are investing in products of proved efficiency and endurance when you specify U S Bobbins and Shuttles. Talk to a U S sales representative. You'll find him fully prepared to help you get better yarn and fabric quality, and lower operating costs.



U S owned timber properties permit complete control of wood stock selection and every step in processing, from forest to finished products. Five manufacturing plants, North and South, provide ample facilities to produce and deliver promptly the cost-saving yarn carriers you need, in any quantity.

Anywhere in textile America, you are near the headquarters of a U S specialist in yarn carrier selection. He'll call at your request.

U S BOBBIN & SHUTTLE CO.

LAWRENCE, MASS. PROVIDENCE, R. I. PHILADELPHIA, PA.
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MINNEAPOLIS, MINN.

LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave.
DALLAS: O. T. Daniel, Textile Supply Co.
CANADA: W. I. Westaway, Montreal, Que., Hamilton, Ont.

"Tycol Alweave cuts power consumption... lessens tube loss... lowers equipment down time"

Check! Tycol Alweave Textile Oils reduce thread breakage —hold spindle drag and bolster losses to a minimum. Their high stability and easy scourability let mills operate at top production speeds, with far fewer stoppages.

Specially designed Tycol Alweave Oils are available in a wide range of both mineral and compounded grades. They'll step up efficiency in every mill process.

Learn more about Tycol Alweave Oils. Get in touch with your nearest Tide Water Associated office today.

TYCOL

INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C. • Pittsburgh
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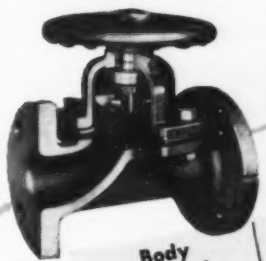
TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N.Y.

SEND FOR A FREE COPY OF "TIDE WATER ASSOCIATED LUBRICANIA"

WHAT WOULD **YOU** SPECIFY . . .

	Fluid	Concentration	Temp.	Type of Valve	Valve Material
1	Sulphuric Acid	20%	120 F.		
2	Sulphuric Acid	100%	180 F.		
3	Hydrochloric Acid	32%	80 F.		
4	Hydrofluoric Acid	50%	125 F.		
5	Beer		200 F.		
6	Oxygen		Ambient		



We supplied Grinnell-Saunders Diaphragm Valves with . . .

	Body Material	Diaphragm Material
1	Rubber lined	Natural rubber
2	Cast iron	KEL-F
3	Glass lined	Butyl
4	Magnesium	KEL-F
5	Polished bronze	White diaphragm
6	Cast iron*	Neoprene

*For oxygen service a high flash point lubricant is supplied. All valves for oxygen service are subjected to 300 lb. air underwater test.

In several of these cases other body materials or diaphragms would serve as well. But the really important fact is the unmatched versatility of Grinnell-Saunders Diaphragm Valves in handling corrosive fluids, gases, compressed air, food and suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are problems.

Grinnell-Saunders Valve bodies are stocked in cast iron, malleable iron, stainless steel, bronze, and aluminum, with other materials available on special order. Valve bodies can be lined with lead, glass, natural rubber or neoprene. Diaphragms are available of natural rubber and a number of synthetics to suit particular service conditions.

The Grinnell-Saunders Valve Division will be pleased to submit recommendations upon receipt of complete information covering service conditions.

Features of the Grinnell-Saunders Diaphragm Valve

- diaphragm absolutely isolates working parts from fluid
- diaphragm lifts high for streamlined flow in either direction
- diaphragm presses tight for positive closure
- body, lining and diaphragm materials to suit service
- simple maintenance—diaphragm easily replaced

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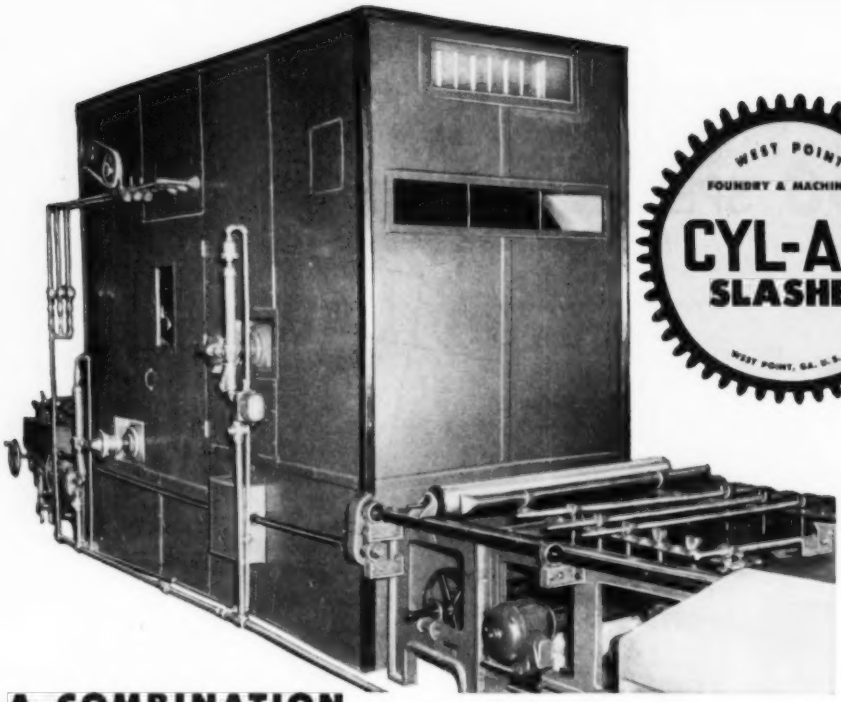
WHENEVER PIPING IS INVOLVED

Grinnell Company Inc., Providence, Rhode Island • Sales Offices and Warehouses in Principal Cities

pipe and tube fittings • welding fittings • engineered pipe hangers and supports • Thermolier unit heaters • valves Grinnell-Saunders diaphragm valves • pipe • prefabricated piping • plumbing and heating specialties • water works supplies industrial supplies • Grinnell automatic sprinkler fire protection systems • Amco humidification and cooling systems



WEST POINT FOUNDRY & MACHINE CO.
CYL-AIR SLASHER
WEST POINT, GA. U.S.A.

A COMBINATION CYLINDER and HOT AIR SLASHER DRYER

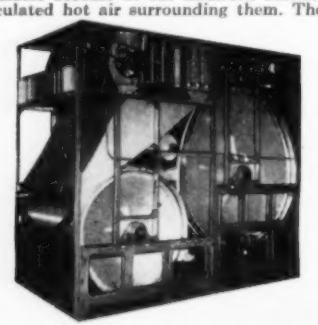
The CYL-AIR Slasher Dryer combines the advantages of cylinder and hot air drying in one efficient and compact unit. Its production rate is much higher than a conventional 2-cylinder dryer section, yet the CYL-AIR occupies no more floor space. It can be used with present head end, size box, and creel with very little change in conventional operating methods.

In the completely enclosed CYL-AIR Slasher Dryer, air is heated by three double-row steam coils, then circulated through the wet yarn and around the two cylinders by a triple unit centrifugal blower. A large percentage of the hot air is recirculated for better thermal efficiency.

The contact drying rate of the 5′ and 7′ cylinders of the CYL-AIR is greater than conventional type cylinders because of the insulated enclosure and the circulated hot air surrounding them. These welded, dished-head cylinders are made for steam pressures up to twenty-two pounds per square inch.

The CYL-AIR Slasher Dryer is designed for smooth operation and low maintenance cost. We will be glad to show you how the CYL-AIR can be easily adapted to your present slasher equipment.

The WPF&M CYL-AIR Slasher is one of the complete line of modern Slashers manufacturered by the WEST POINT FOUNDRY & MACHINE COMPANY—specialist in Slasher Room machinery and equipment.



INTERIOR OF THE CYL-AIR SLASHER DRYER

WPF&M WARP PREPARATION MACHINERY

Standard 2 and 3 Cylinder Slashers
Cyl-Air Slashers
Multi-Can Slashers
WPF&M Hi-Speed 4 Cylinder Slashers
Callaway Sample Slasher

SLASHER MODERNIZATION EQUIPMENT

Hi-Speed Head Ends with Stretch Control
Standard WPF&M Head Ends
Multi-Motor Drives and Controls
Temperature, Speed and Tension Control Devices
Hi-Speed Size Boxes
Model 50 Size Boxes
Standard Size Boxes
Size Kettles and Equipment

WPF&M

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

Onyx is ready to help you solve lubrication, finishing and dyeing problems that the new blends ahead in the textile industry are setting up.

Dacron, Vicara, Orlon, Dynel—to mention just a few of the new synthetics—are calling for the utmost in ingenuity as well as experience when they are blended with other fibers.

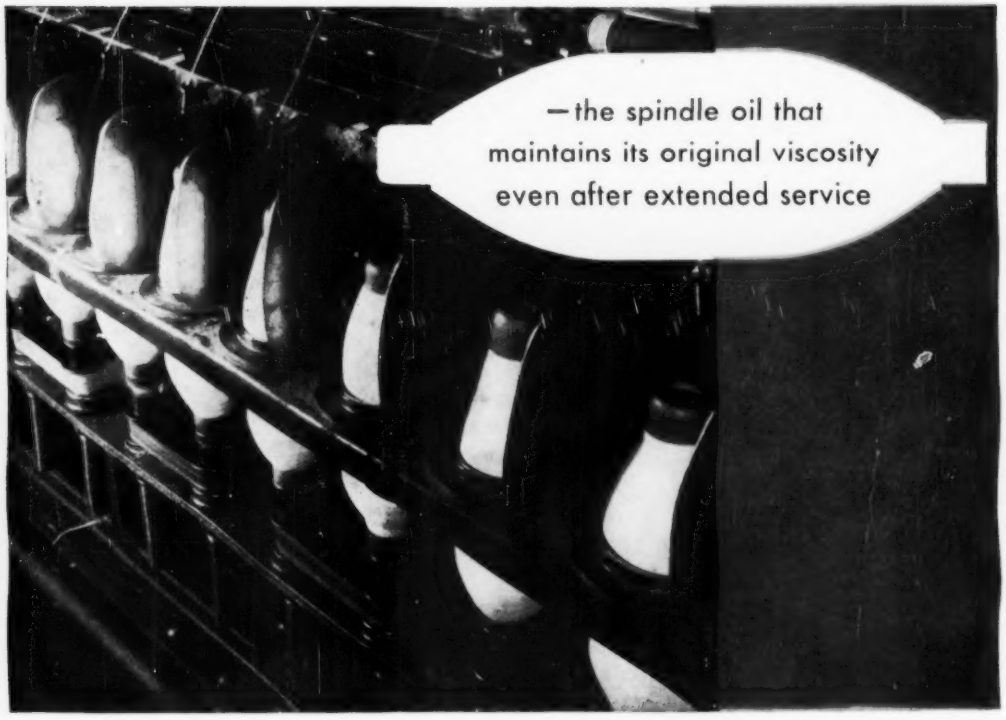
We don't know it all! But we offer you knowledge, experience and patience in solving finishing and dyeing problems. Onyx helped work out the answers to lubrication of glass fibers when the idea was new. We have just finished work on certain Dynel blends to the satisfaction of the maker and quite a few users.

Please call us in on your new blends!

onyx CHEMICALS FOR DYEING • FINISHING • PRINTING

ONYX OIL & CHEMICAL COMPANY
TEXTILE DIVISION
115 MORRIS ST., JERSEY CITY 2, N. J.
CHICAGO • BOSTON • CHARLOTTE • ATLANTA

Keep power consumption low with Gulfspin



Dirt, water, and oxygen act to thicken ordinary spindle oils, appreciably increasing their viscosity during normal spinning room service. Because of this higher viscosity, an increase in frictional resistance occurs and power consumption is increased proportionately. Result: power costs that are higher than necessary.

But this is not the case in spinning rooms where Gulfspin is the spindle lubricant. Gulfspin does not undergo any appreciable increase in viscosity, even after extended service. Thus substantial savings in power costs are possible with this outstanding oil.

Gulfspin has many other characteristics which make it effective for spindle lubrication: It is not only resistant to the formation of sludge, but also prevents sludge from depositing on spindle shafts and bolsters—thus it keeps spindles extra clean. It reduces wear because of excellent oiliness characteristics, and helps effectively to protect spindle parts against rust.

See for yourself on your frames that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office and ask a Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company
Gulf Building, Pittsburgh 30, Pennsylvania

GULF SERVES INDUSTRY

Try Stantex* Anti-Static Oils and Finishes

You can eliminate undesirable and costly static effects in textile processing of staple, yarns, and fabrics with Stantex* Anti-Static Oils and Finishes. Their use results in greater efficiency, increased production and improved quality. For example:

ON STOCK . . . when applied to all fibers and blends at picker, Stantex* Anti-Static Oils and Finishes reduce fly waste and broken ends, and produce more uniform yarns.

ON NYLON . . . when applied to yarn in coning and slashing, they eliminate wildness and produce better knitting and weaving results.

Many other successful applications are made on wool, rayon, acetate, cotton and synthetics. If static is a problem for you in processing, we invite your inquiry. Our technical staff will assist you to select the Stantex Anti-Static Oil or Finish suitable for your purpose.

STANDARD CHEMICAL PRODUCTS, Inc.

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Manufacturer of: Pyrotex—Standapol*—Stantcosine—Retardine*—Standafin

For more information, write direct or use Reader Service post card.

NEW! SIMPLER IN DESIGN!

The *IMPROVED* Automatically Self-Cleaning AMCO Atomizer, No. 6

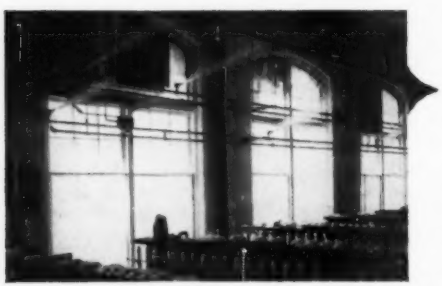
AMCO No. 6 atomizer retains all the time-tested features of the popular No. 5 unit . . . plus additional features which assure improved spray quality. Its better performance and ease of maintenance make this automatically self-cleaning atomizer superior for new installations and replacements.

CONSTRUCTION AMCO No. 6 is made from metals which have proved their resistance to erosion, corrosion and mechanical wear. More rugged construction, fewer parts and greater simplicity in design make servicing easy.

SPRAY A micro-atomizing nozzle produces an exceptionally fine, smoke-like spray which is projected a great distance, intimately mixing with room air. Discharge is adjustable. An entirely new valve action insures positive water shut-off.

SELF-CLEANING The air and water nozzles are automatically self-cleaned each time the compressed air is shut off manually or by humidity control.

AMCO No. 6 conforms to standard specifications. It is interchangeable with AMCO atomizers Nos. 5 and 4 where at least 20 pounds per square inch is maintained on air lines and the water lines are under gravity control.



CHECK THESE PRACTICAL BENEFITS

— yours with

AMCO CONTROLLED HUMIDIFICATION

- Regain maintained—Normal moisture content of fibers retained during processing and in finished fabrics.
- Constant weight of yarn and cloth per given length made possible—yarn counts kept more even.
- Output increased—Static electricity eliminated as a problem. Closer machine adjustments and higher speeds maintained. Materials kept in best condition for processing.
- Product quality improved—Fewer imperfections from pieced-up ends. Stronger, smoother and more uniform fabrics. Yarn and cloth sheen improved.
- Waste reduced—More yarn produced from each pound of raw material. Less broken fibers, dust and fly in product.

AMCO

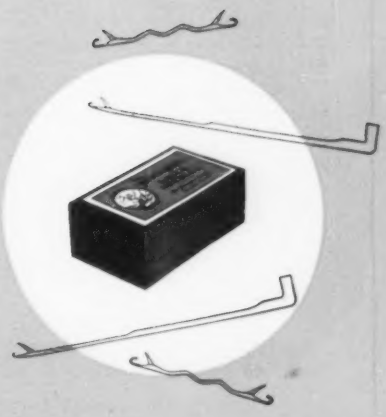
HUMIDIFICATION • COOLING • AIR CONDITIONING

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC.

your best buy is nearby...

TORRINGTON NEEDLES

-complete stocks close at hand



To insure you prompt service on all your needle needs, Torrington places complete needle stocks and experienced technical assistance within close call . . . at ten conveniently located offices throughout the United States and Canada.

So for prompt and dependable assistance, just call the Torrington office nearest you. You'll find Torrington needle quality unsurpassed . . . and Torrington's needle experts a valuable supplement to your own technical staff!

call* TORRINGTON *for quality needles backed by dependable service

THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.
Established 1866

Branches: **New York • Philadelphia • Chicago • Boston • Greensboro, N. C. St. Louis • Toronto, Canada. •** ***Pacific Coast Representative:*** **E. G. Paulus, 1762 West Vernon Ave., Los Angeles 37, California. Broadgate House, 7-10 Eldon St., London E. C. 2, England.**

no housing problem...

Torrington Needle Bearings need no elaborate, expensive housings. A straight bore—machined to proper dimensions—is all that's required. No positioning shoulders... no spacers... no retainers! Simple to install, Needle Bearings are seated by press fit. An arbor press operation does the job easily and quickly.

Reductions in the size—and weight—of housings and related parts are also possible because of the compactness of Needle Bearings. Stronger, more economical designs often result. Want more details? Then drop us a line, today.

THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.
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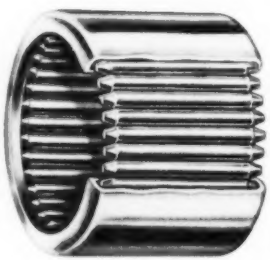

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

FOR Hard-to-Start Jobs

Requiring Low Starting Current

SPECIFY

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TYPE RS*

MOTORS

** Single Phase, Repulsion Start, Induction, Brush Lifting Motors*

Century SERVICE

Is Near Any CENTURY Motor Driven Equipment

Century Service Is Near Any Century Motor Driven Equipment. Prompt Service is offered by CENTURY'S National Network of more than 200 Authorized Service Stations, supervised by 28 Century Sales offices.

1. Facilities for immediate exchange of most CENTURY standard ratings of standard construction are available at CENTURY Authorized Service Stations.
2. CENTURY Authorized Service Stations are qualified and equipped to service and repair any piece of CENTURY apparatus.
3. Genuine CENTURY renewal parts are available at CENTURY Service Stations, CENTURY Parts Distributors and at the factory in St. Louis.

You will find that these rugged, dependable motors meet the starting, accelerating and running characteristics of such equipment as refrigeration compressors, air compressors, stokers, reciprocating pumps, and other hard-to-start loads.

For more than 47 years, Century Type RS motors have given satisfactory service throughout the world. They are available in sizes from ½ to 20 horsepower, in drip proof and splash proof frames.

In addition, Century builds electric motors in a wide range of types and kinds—in sizes from 1/6 to 400 horsepower for operation on single and polyphase and direct current. Specify Century motors for all your electric power requirements.

ALTERNATING CURRENT MOTORS

POLYPHASE

Squirrel Cage Induction—1/6 to 400 H.P.
Wound Rotor Motors—1 to 400 H.P.
Synchronous Motors—20 to 250 H.P.

SINGLE PHASE

Split Phase Induction—1/6, 1/4, 1/3 H.P.
Capacitor—1/6 to 20 H.P.
Repulsion Start, Brush Lifting, Induction—1/2 to 20 H.P.

DIRECT CURRENT MOTORS

1/6 to 300 H.P.

GENERATORS

AC, .63 to 250 KVA
DC, .75 to 200 KW

GEAR MOTORS

1/8 to 1-1/2 H.P.

MOTOR GENERATOR SETS

AC to DC, AC to AC
DC to DC, DC to AC

Open Protected, Splash Proof, Totally Enclosed Fan Cooled, Explosion Proof.

Ball Bearing motors are factory lubricated for several years' normal service. Bearing housing construction permits easy re-lubrication when unusual service demands it.

Century C MOTORS

CENTURY ELECTRIC COMPANY
1806 Pine St., St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

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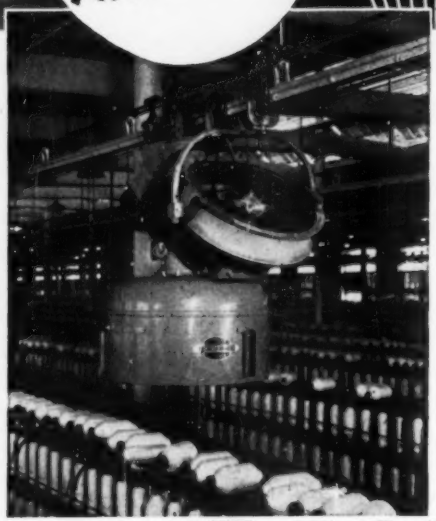
AMERICAN MONORAIL *Automatic Cleaners*

SAVE LABOR • IMPROVE YARN PRODUCTION



You can eliminate fly, keep ceilings clean, reduce machine stoppage, lower cleaning costs and get better running work with American MonoRail Automatic Overhead Cleaners. Consultation with an American MonoRail engineer will reveal why Controlled Cyclonic Cleaning is used in so many textile plants. Write for 24-page booklet explaining cost-saving advantages.

THE AMERICAN MONORAIL COMPANY

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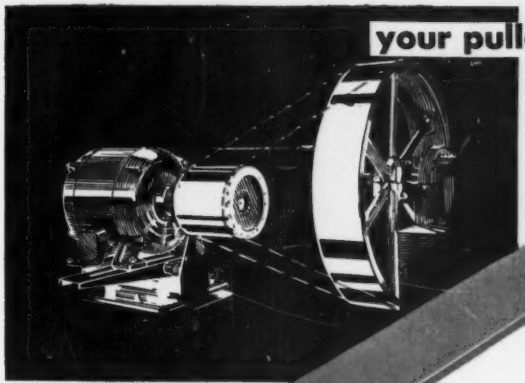


Graton & Knight RESEARCH leather belt on short-center controlled tension motor base drive.

your pulleys will drive your machines only as well as your belts drive your pulleys

if you want more production, get GRATON AND KNIGHT® leather belting for more production-power

Get a Graton & Knight "Live Traction" Leather Belt — because it is engineered to transmit maximum uniform horsepower at correct speeds and sustained R.P.M. — with ample reserve for load peaks, and "fluid drive action" to absorb starting torque and load shocks.

For tough conditions, cross, shifter and idler drives, **HEART OAK** top grade center stock oak tannage. For short center, small pulley, cone pulley and serpentine *precision* drives, **RESEARCH®** premium quality. For ambient conditions (steam, oil, water, acid and alkali fumes) **SPARTAN®** combination tannage . . . Whatever your conditions, you'll get more production-power with Graton & Knight *Engineered* Leather Belting.

and *keep* your belts pulling for you

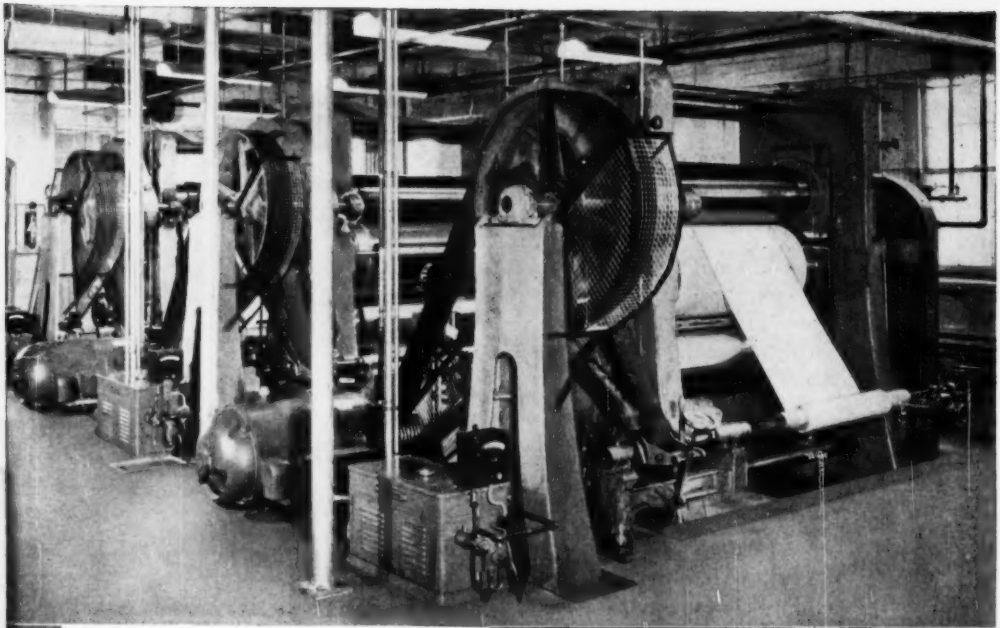
Stop belt slippage — prolong belt life with GRAKO® CLEAR Belt Dressing, result of 100 years experience in leather tanning and belt manufacture. Preserves and lubricates the fibres. Pint, quart and gallon cans — 5-gallon and 50-gallon drums. Send for circular.

New Belting Catalog and Manual shows how to get more production-power with leather belting. Our representative will deliver your (free) copy upon request. GRATON & KNIGHT COMPANY, Worcester 4, Massachusetts.

second century G and K **engineered leather belting**

for more production-power

GRATON AND KNIGHT® Estab. 1851



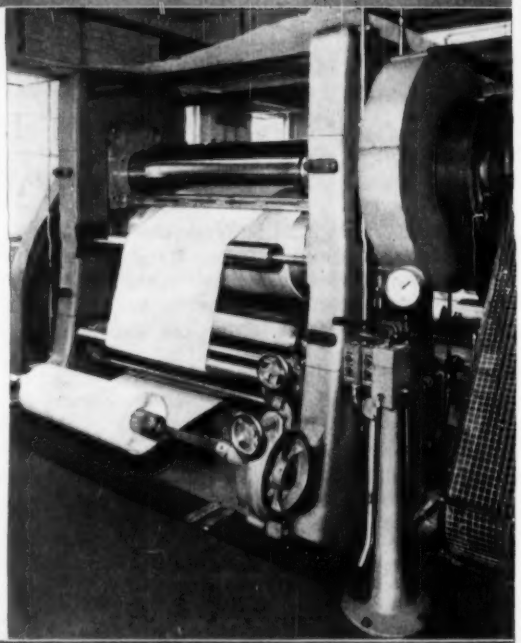
Customer's Verdict:

"Friction calender of the year"

"Smoothest running friction calender ever built"

Battery of three Perkins Friction Calenders incorporating new and proven ideas which contribute to smooth operation and high efficiency; roller bearings leakproof for life-time—seals eliminated; hydraulic equipment with built-in accumulator, self-contained in compact housing; friction drive by chain, easily adjustable for any friction percentage desired; all other details of construction up to the highest standards of engineering.

CLEANLINESS SMOOTHNESS NOISELESSNESS



B. F. PERKINS & SON, Inc.

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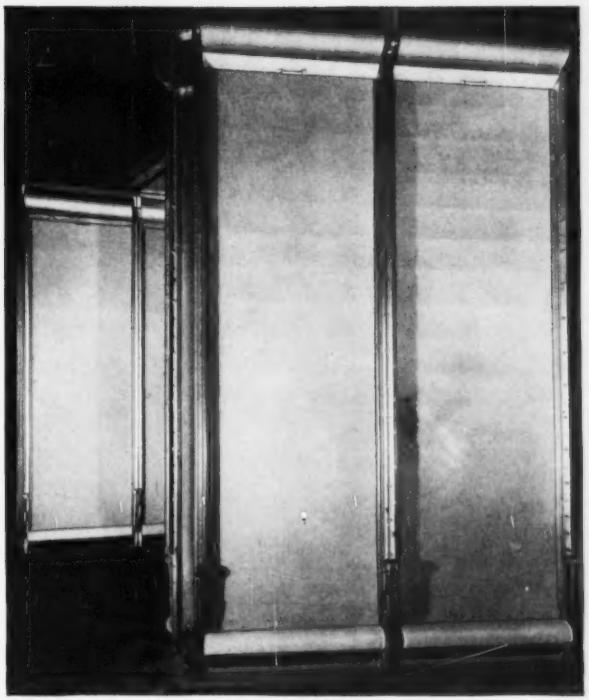
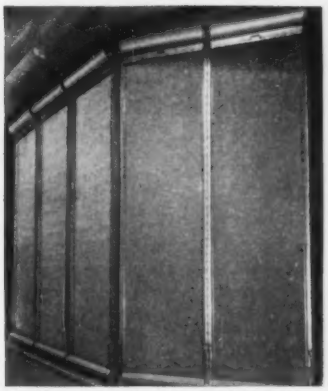
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

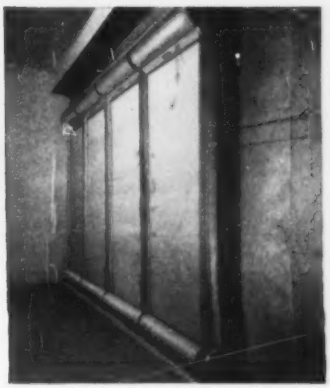
today's best buy is better air!



Eight Section Auto-Airmat Double V installation



Five section Auto-Airmat wide angle arrangement



Four section Auto-Airmat straight bank arrangement

new mill installations of **AUTO-AIRMAT**

This automatic filter cleans return air • provides easy disposal of lint • reduces "overtime" maintenance on air washers

These recent Auto-Airmat installations show how modern textile mills are reducing operating costs. Excessive lint concentrations in spinning, weaving or carding rooms can be a costly problem. The AAF Auto-Airmat lint filter has proved to be a practical solution and was specially designed to shave these costs to a minimum.

In the Auto-Airmat a sheet of Airmat* media moves downward on an endless screen from a roll at the top of the filter and is rerolled at the base with its lint load . . . ready for easy disposal. The rate and frequency of screen travel is automatically controlled by a pressure switch. This starts the drive mechanism when resistance builds up to a predetermined maximum. The screen stops when sufficient clean Airmat has been introduced to reduce resistance by ¼" wg.

The automatic operating feature of the Auto-Airmat maintains maximum filter efficiency with minimum servicing. Also the collection method eliminates expensive "overtime" cleaning jobs and solves the disposal headache.

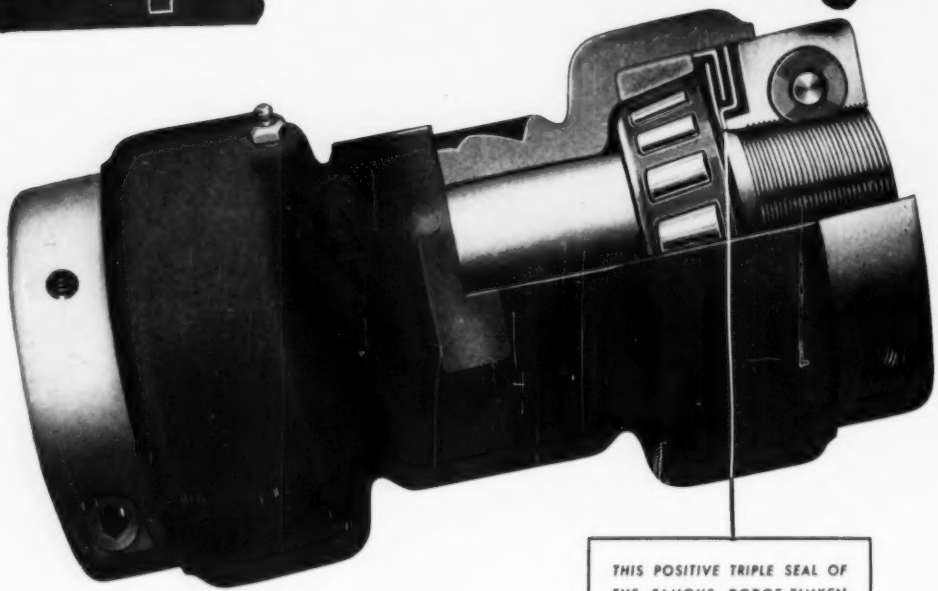
If lint from your weaving, carding or spinning rooms is a costly problem, call your AAF representative . . . or write us for Engineering Bulletin No. 234.

*Airmat is the trade-mark (reg. U. S. Pat. Off.) of the American Air Filter Company, Inc., for various air filters, dust collectors, and filtering media.

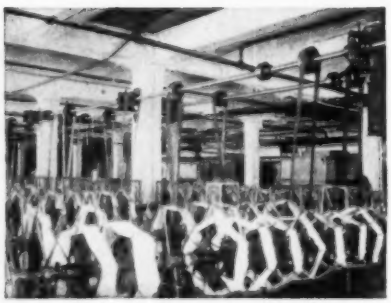
American Air Filter
COMPANY, INC.

304 Central Avenue, Louisville 8, Kentucky • American Air Filter of Canada, Ltd., Montreal, P. Q.

Stops Oil Damage!



THIS POSITIVE TRIPLE SEAL OF THE FAMOUS DODGE-TIMKEN TYPE C BEARING ELIMINATES OIL DRIP...HERE IS THE IDEAL BEARING FOR TEXTILE MILL USE!



This installation of Dodge-Timken Hanger Bearings protects quality and profits. Special seals prevent oil leakage on the product, reduce "seconds." Bearings remain properly lubricated, saving labor.

IS OIL DRIP eating holes in your profits? To keep the lubricant where it belongs—*inside the bearing*—switch to Dodge-Timken. These famous bearings, noted throughout the world for quality, have proved themselves in millions of industry's toughest jobs.

The type C Dodge-Timken Bearing is especially adapted to use in the textile field. Its indestructible steel seal positively prevents lubrication leakage—definitely cuts a mill's loss from "seconds."

Available from distributors' stocks—in shaft sizes from 1-7/16" to 3-15/16". Completely assembled, factory adjusted, pre-lubricated and ready to install on the shaft for a minimum of 30,000 hours of uninterrupted service. Call your nearest Dodge Transmissioneer. Or write us for detailed bulletin.

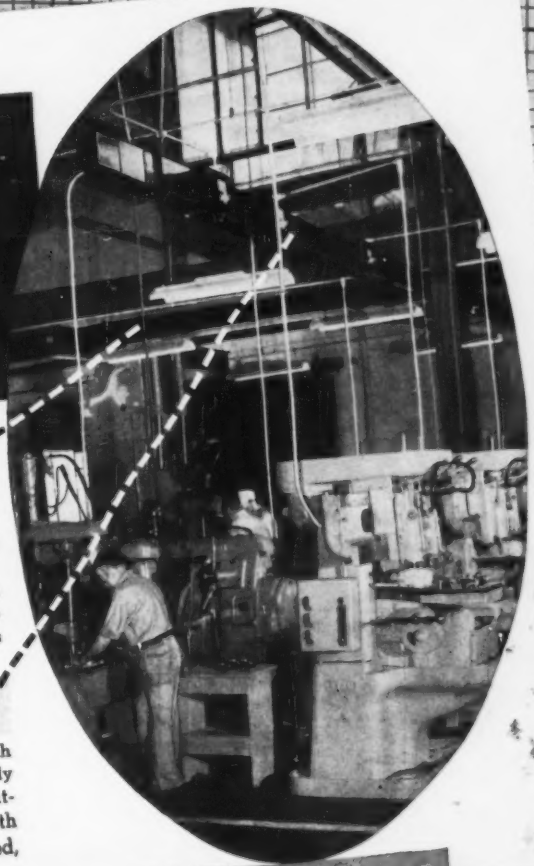
DODGE MANUFACTURING CORPORATION
1400 Union Street • Mishawaka, Indiana

CALL A DODGE TRANSMISSIONEER. He's factory-trained to help solve your power drive problems. Look for his name under "Power Transmission Equipment" in your classified telephone directory.

DODGE
of Mishawaka, Ind.

for time-saving, money-saving

POWER DISTRIBUTION



SQUARE D FEED-IN DUCT

is the most efficient way to transmit large amounts of power. It provides the lowest known voltage drop—only 1.8 volts per 1000 amperes per 100 feet.

Exclusive design requires no ventilation—permits a totally enclosed, compact, dust-excluding enclosure. Rigid construction provides high resistance to heavy electrical stresses.

SQUARE D PLUG-IN DUCT

provides flexible power distribution for branch circuits. Machinery can be rearranged quickly at minimum cost. Plug-in units can be attached at frequent intervals along the length of the duct, providing power where it's needed, when it's needed.

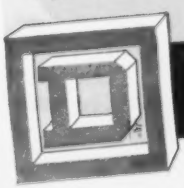
BUSWAY FEATURES PROVE DESIGN LEADERSHIP

NEW JOINT DESIGN. Feed-in Duct joint design saves installation time and reduces maintenance cost. Duct ends are identical—unnecessary to select mating ends before positioning or hanging duct sections. Outward-facing, pre-installed bolts permit rapid assembly and easy maintenance.

ROUND BUS BARS for Plug-in Duct provide greater mechanical strength and resistance to short-circuit stresses. Circuit breaker or fusible type plug-in units are easily installed at 2-foot intervals along both sides of the duct. Plug-in stabs grip the round bus bars with exceptionally high pressure.

FLEXIBLE CONNECTORS of laminated copper join bus bars between sections—permit proper alignment, insure tight joints and provide for expansion and contraction at Plug-in duct joints. All bolt heads face outward for greater accessibility.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS



SQUARE D COMPANY

DETROIT · MILWAUKEE · LOS ANGELES

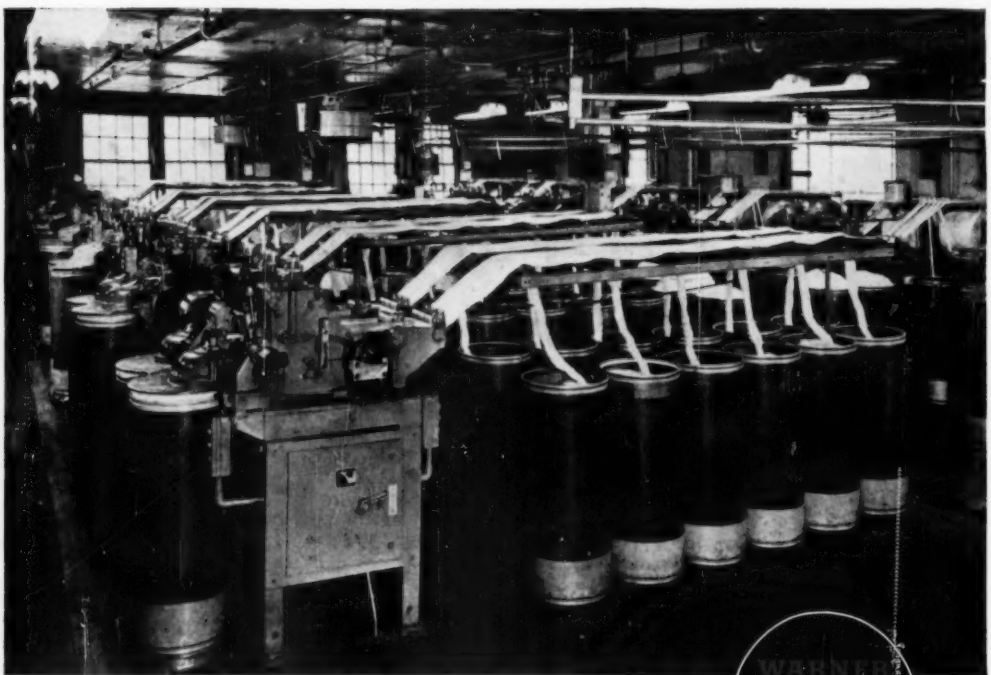
SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.

WARNER & SWASEY

Pin Drafter

"One of the best capital investments we ever made!"

Says
P. McGRAW WOOL COMPANY
Pittsburgh, Pa.



16 Warner & Swasey Pin Drafters in Drawing Department at The P. McGraw Wool Company, Pittsburgh, Pennsylvania. 6 Pin Drafters are also used in their Combing Department.

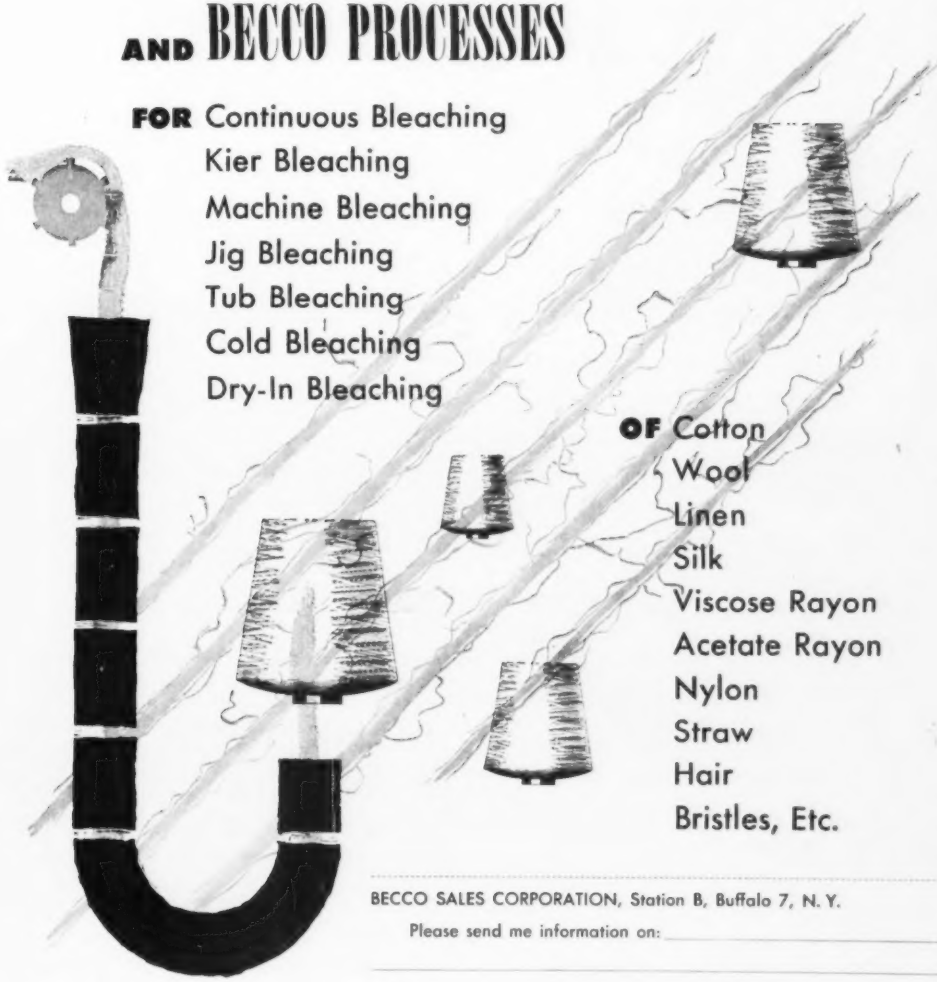
BRANCH OFFICES: 61 Rivulet Street, North Uxbridge, Mass.
6910 Market Street, Philadelphia, Pa.
Candler Building, Atlanta, Ga.

WARNER & SWASEY
TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY

USE BECCO HYDROGEN PEROXIDE
OR PERACETIC ACID
AND BECCO PROCESSES

FOR Continuous Bleaching
Kier Bleaching
Machine Bleaching
Jig Bleaching
Tub Bleaching
Cold Bleaching
Dry-In Bleaching



OF Cotton
Wool
Linen
Silk
Viscose Rayon
Acetate Rayon
Nylon
Straw
Hair
Bristles, Etc.

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Sales Agent for BUFFALO ELECTRO-CHEMICAL COMPANY, INC.
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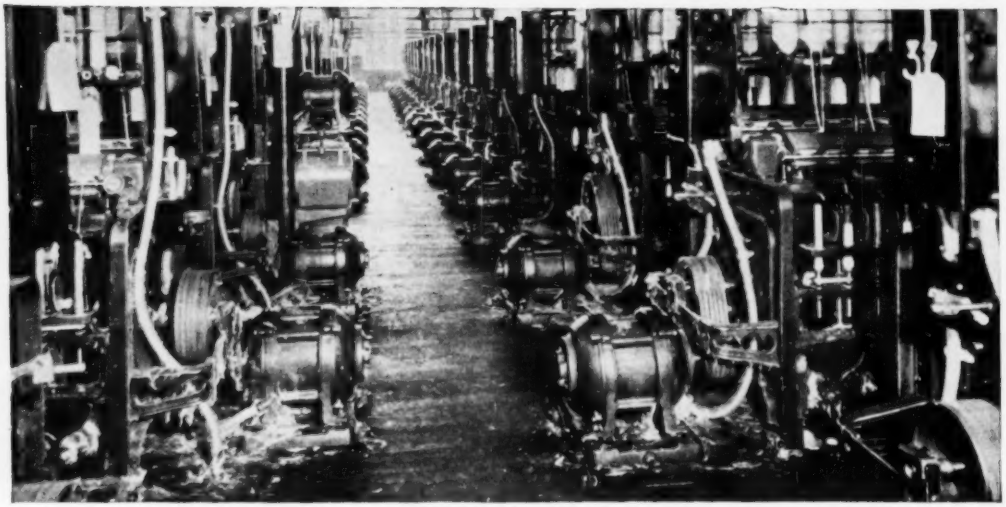
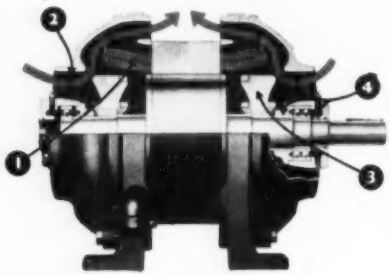


Unobstructed air passages in the 40 G-E 15-hp screenless open textile motors in this mill let lint blow right through—keep motors operating continuously, even under severe lint conditions.

LINT CAN'T STOP 'EM!



G-E Screenless Open Textile Motors provide positive lint expulsion— keep spinning frames on the job

You're sure of *positive* lint expulsion with the specially-designed ventilating system in General Electric's screenless open textile motors. Cooling air sweeps freely through streamlined passages in the motor—there's no place for lint to accumulate. Spinning frames, roving frames, pickers, etc. stay on the job because lint can't cause motor windings to overheat, burn out.

For best results, call in your local G-E textile-mill specialist when you need textile motors. Bulletin GEA-1557 gives further details. *General Electric Company, Schenectady 5, N. Y.*

Here's Why:

1. **Compactly-wound coils**—end turns are filled with smooth-finish compound. Lint can't accumulate on the smooth, hard surface.
2. **Specially-designed endshields** direct cooling air through fan and over the windings. Generous clearances assure positive expulsion of lint.
3. **Strong, smooth-surface fans** provide a smooth, powerful flow of cooling air. Blades are shaped and spaced to shed lint, keep it moving out.
4. **Bearing housing** keeps lint out and grease in. Fittings let you relubricate bearings—after years of service—without disassembling motor.

Years of Service— then *easy* relubrication!

Bearing lubrication is no problem here. Grease reservoirs contain four times the ordinary amount. Bearing housing holds grease in constant contact with bearings. Eventually, after years of service, when lubrication is necessary to lengthen bearing life, a grease gun does it—without removing the endshields!

GENERAL ELECTRIC

554-20

For

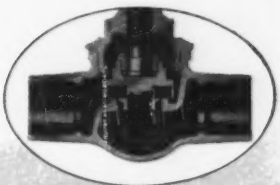
EASY INSTALLATION
POSITIVE CONTROL
LASTING ECONOMY
in copper line service

JENKINS *Solder-End* VALVES

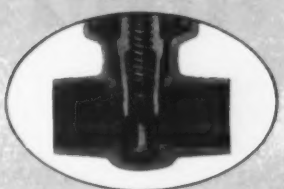
To speed installation in copper lines, you want a valve with an accurate fit to tubing—a valve that will not distort under the intense heat of soldering. And, because flexible tubing does not afford the rigid support of standard pipe, you want a valve that will withstand unusual strains in operation.

To give you Solder End Valves that meet *every* test in the toughest service Jenkins valve specialists designed them with an extra measure of rugged endurance, along with the dimensional accuracy and operating efficiency you expect in all valves of Jenkins quality.

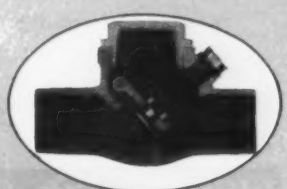
A new Folder, Form 198, describes the complete line of Jenkins Solder End Valves, shows construction details, and gives instructions for correct installation. Get your copy—see why so many economy-wise valve buyers specify *Jenkins*. Jenkins Bros., 100 Park Ave., New York 17. Jenkins Bros., Ltd., Montreal.



GLOBES 300 lbs. O.W.G. ¼" to 3"
Fitted with Jenkins Renewable Composition Disc for any specified service.



GATES 225 lbs. and 300 lbs. O.W.G. ¼" to 3" With solid or split wedges, and stationary or traveling spindles.

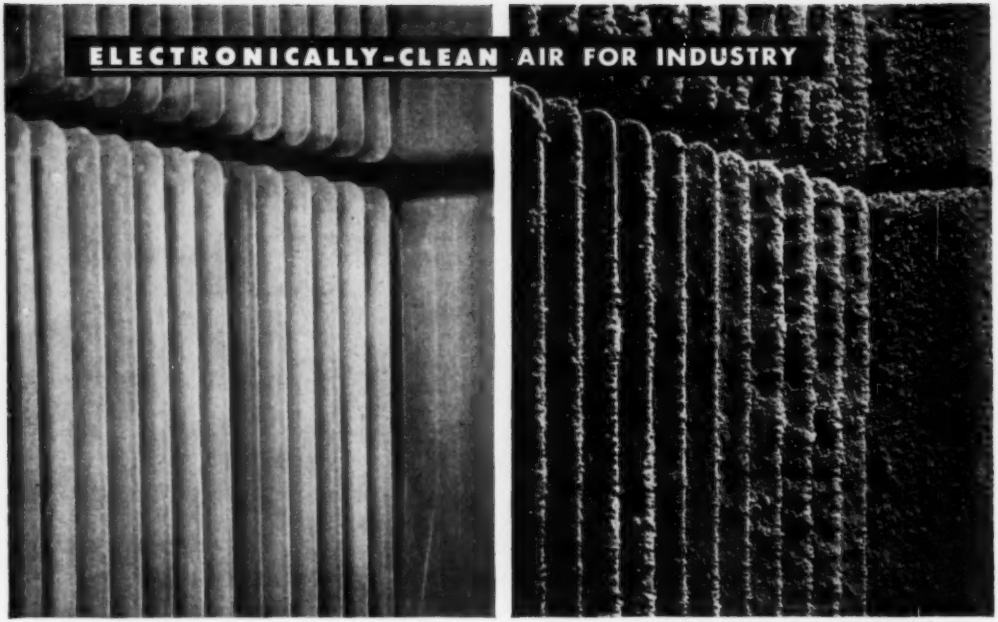


CHECK 300 lbs. O.W.G. ¼" to 3"
Regrinding. May be easily reground without removal from line.

GET THIS New FOLDER ON JENKINS Solder End VALVES
Gives complete description, dimensions, and instructions for installation. Ask your Jenkins Distributor or write for Form 198: Jenkins Bros., New York 17.

JENKINS
LOOK FOR THE DIAMOND MARK
VALVES

 For more information, write direct or use Reader Service post card.



BEFORE A close-up shows aluminum collector plates in clean PRECIPITRON cells. This is the way they appear after periodic washings, which dispose of the trapped air-borne particles.

AFTER only 2½ weeks cleaning "normal atmospheric" air, the same plates had accumulated this much dirt. PRECIPITRON stops air-borne dirt, soot, pollen, oil mists.

Precipitron® — ELECTRONIC BARRIER AGAINST INVISIBLE DIRT

Air that's "fit to breathe" *isn't* clean enough for a textile mill's vital processes. Your eye can see dirt particles 4/100,000 of an inch in diameter, yet contaminants invisible to the naked eye pass through mechanical filters to cause soilage losses. If you are faced with this problem in your twisting, spinning and weaving rooms, the answer lies in PRECIPITRON, the *electronic* air cleaner which removes 90% of all harmful air-borne particles.

PRECIPITRON—invented by Westinghouse—has no moving parts . . . nothing to replace periodically . . . is *three times* more efficient than the best mechanical air filters. It will trap harmful contaminants so small they can be seen only with an Ultra Microscope.

If you wish to add electronic air cleaning to your present systems—or if you wish to *put air to work* with Sturtevant air handling or air conditioning apparatus incorporating electronic air cleaning—contact your local Westinghouse-Sturtevant Office; or write Westinghouse Electric Corp., Sturtevant Division, Hyde Park, Boston 36, Mass.

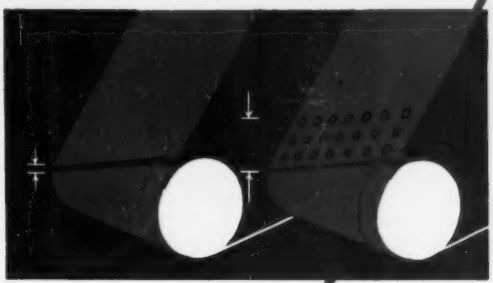
YOU CAN BE SURE...IF IT'S **Westinghouse**

ELECTRONIC *Air* CLEANING FOR:

J-80227B

"RUBBER RIVETS"

Exclusive in Manhattan Endless Belts



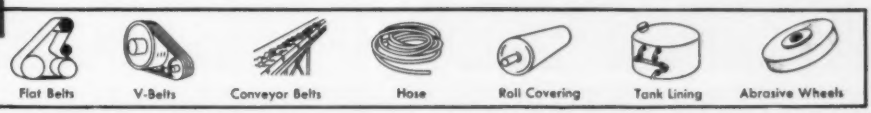
ELIMINATE SPLICE FAILURES

You get much longer life out of Manhattan's Endless Flat Belts because of our exclusive use of "Rubber Rivets" in splicing the cover. In ordinary endless belts the stress of flexing over small pulleys concentrates where the cover is spliced. Failures of these belts start at this point of greatest weakness • With Manhattan Belts the stress is dissipated over a wide area. The difference is illustrated above. During manufacture "Rubber Rivets" are inserted at pre-determined points through the cover. Vulcanizing then makes these rivets an integral part of the belt, eliminating possibility of separating • This is the "Extensible-Tip" exclusive with Manhattan. This plus feature in all Manhattan Endless Belts gives you longer belt life and lower belt cost . . . typical of the R/M engineering that also saves you money in hose, V-belts and conveyor belts • *Ask your R/M distributor for your copy of our "Exclusive Features" book.*

R/M

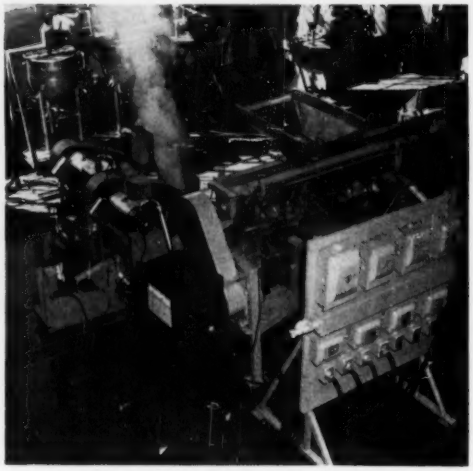
MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.



Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Packings • Brake Linings • Brake Blocks • Clutch Facings • Asbestos Textiles • Sintered Metal Parts • Bowling Balls

EFFECTIVE INSULATION—*Used in both research and quality control, these instruments automatically record temperatures at many points in a "test wall" of paper insulating material.*

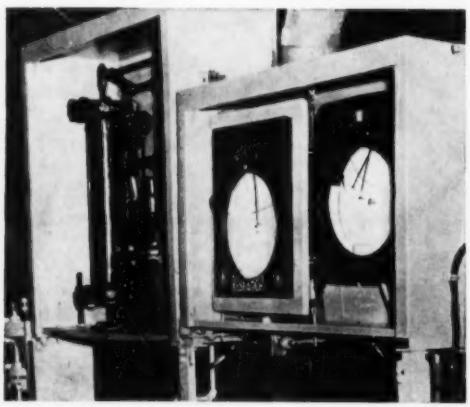


BETTER FOODS MEAN HEALTHIER BABIES—*Pilot plant at Baby Foods Division of Gerber Food Products makes use of* **ElectroniK** *recorder to check all-important processing temperatures during test runs.*

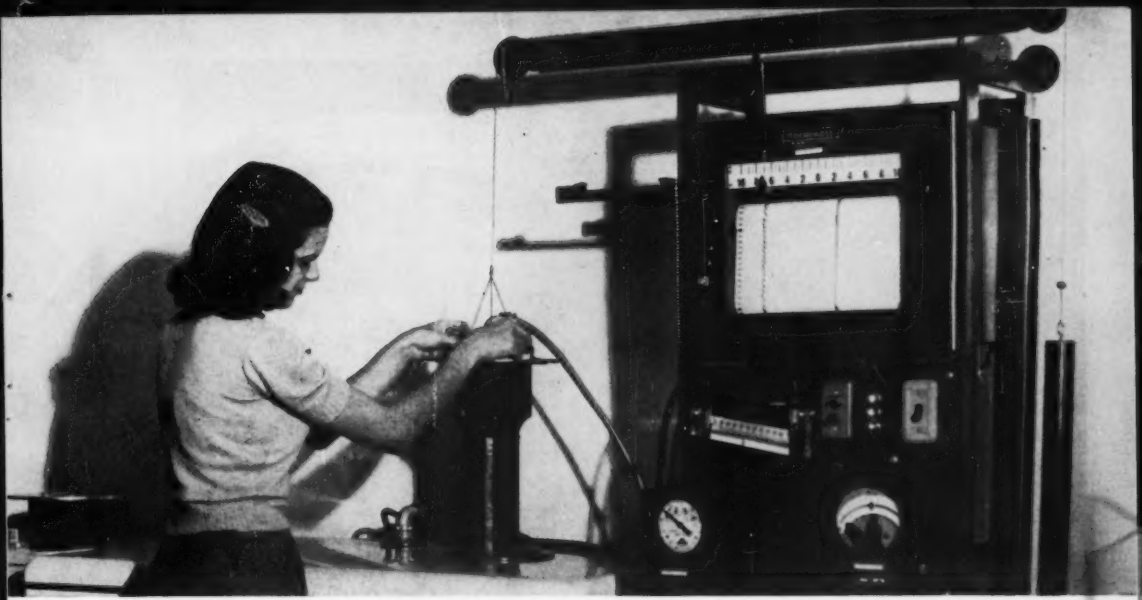
For all of industry... *especially*

Instruments

TORQUE MAGNETOMETER *used by researchers at United States Steel Corporation tells whether a steel sheet can be "drawn" into a deep cap for a ketchup bottle. Shape of curve drawn by recorder pen tells the magnetic, hence the shaping, story.*



FILAMENTS FOR FABRICS — *These instruments, in one of America's foremost rayon plants, are contributing to the stability of pilot plant processing in the development of finer filaments for tomorrow's fabrics.*



WARMTH WITHOUT WEIGHT *is the goal of projects such as this . . . where an* ***ElectroniK*** *strip chart potentiometer is used to measure and control temperatures in tests for evaluating the thermal insulating properties of fabrics.*

for the textile industry

accelerate research

THE PRESENT and future progress of the Textile Industry is closely associated with the rate of technological advances . . . and they, in turn, depend upon the acceleration of research.

Notable among the more important tools of the researcher are modern instruments and controls which bring to the laboratory the same speed and accuracy which have meant so much to the new efficiencies of processing operations.

Today's researchers get things done in a hurry . . . in many cases, with the help of some modification of the versatile *ElectroniK* potentiometer. Spectrophotometric measurements, colorimetry, conductivity, pH, tensile strength, temperature and relative humidity in conditioned chambers, radiant energy measurement, and temperature records in laboratory procedures . . . all join in helping to produce such desirable end results as more weavable warp, faster dyes, lighter weight fabrics.

The complete line of Brown instruments and controls serves the scientist with accuracy, speed and dependability in keeping with the standards of performance it has set for the machine operator.

Our local engineering representative will welcome the opportunity to discuss all of your instrumentation requirements... and he is as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Penna.

MINNEAPOLIS
Honeywell
BROWN INSTRUMENTS
First in Controls

● *Important Reference Data*

Write for 84-page bulletin "Instruments Accelerate Research" . . . and Data Sheets on instrumentation for a variety of specific applications.

SPECIALLY DESIGNED 500 GPM WORTHINGTON TREATING SYSTEM at the new Pemex natural gas refinery in Poza Rica, Mexico. System includes cold-process slurry-type softener followed by acid feed, filtration and zeolite treatment. Engineered by Arthur G. McKee Company.

Specially Designed for Intermittent Service

Softening system for boiler feed water built for short-period operation, long shutdowns

Water conditioning requirements are especially tough at the new Pemex natural gas refinery in Poza Rica, Mexico.

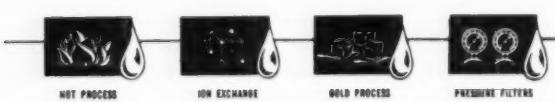
Their need for variable-rate, continuous-service softener operation is complicated by the intermittent boiler feed-water storage demands.

Pemex's conditioning requirements have been met by a specially built Worthington system, so designed that the slurry bed is not lost during "off-service" periods. The bed resumes its normal suspended position at the instant service is resumed. This avoids the irregular treatment, delay and water waste common in systems that require creation of a new slurry bed after each shutdown period.

New Bulletin W-212-B5 gives you the vital facts about this unique cold process water softening method. Write for your free copy today.

Worthington engineers and builds equipment for all the major types of water-conditioning systems, therefore is in an excellent position to give comprehensive and well-balanced recommendations on your water-conditioning equipment problems . . . further proof that *there's more worth in Worthington*. Worthington Pump and Machinery Corporation, Water Treating Section, Harrison, N. J.

J.1.3



Worthington Makes More of the Equipment for ALL Types of Water Conditioning Systems

WORTHINGTON

Water Conditioning

Marquette Roller Bearing Spindles with Full-Floating Footstep Bearing....

FOR COTTON, RAYON, NYLON, WOOL, WORSTED

Starting with a test frame of 264 Marquette Roller Bearing Spindles, this mill now has 20,076 in operation. Compared with the plain bearing spindles previously used, package size has been increased from 7 oz. to 10.8 oz.—a yarn gain of 54%. With no change in spindle speed, power consumption has been reduced 12%.

You too can get more yarn at lower cost with Marquette Roller Bearing Spindles. We'll be glad to prove this by a test installation in your mill. Contact our home office or one of our representatives.

The Marquette METAL PRODUCTS CO.

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

CLEVELAND 10, OHIO

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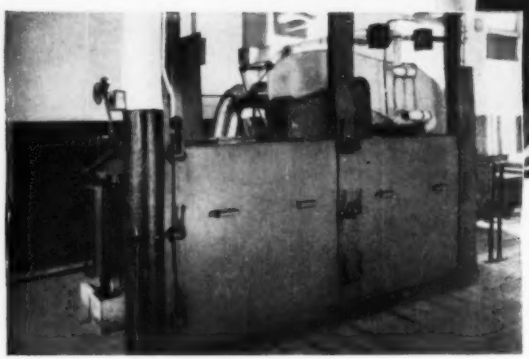
A Recorder Chart Speaks

for

The Fleet Line YARN STEAMER & CONDITIONER



"I am a typical chart taken from the recording instrument on a Fleet Line Yarn Steamer and Conditioner in a well-known New England woolen mill. The graph line on my front shows how steam is fed automatically into the machines. Note that the peaks of this line form practically a perfect circle. That means that temperature and humidity conditions are UNIFORM in the machine at all times and this naturally results in uniform condition of the yarn, from bobbin to bobbin and batch to batch."

Uniformity of product is only one of many advantages that The Fleet Line Yarn Steamer offers. Other advantages are as follows:

1. **May be used for steaming only or steaming and conditioning.**
2. **100% increase in production.**
3. **Temperature, humidity and length of treatment automatically controlled.**
4. **Firm twist setting, due to quick, thorough penetration.**

Catalog page on request.

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

The Fleet Line — A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

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Save this 1-STOP check chart of textile chemicals

You will find Warwick research-developed, market-proved textile chemicals in more than 20 major fields of application in the textile industry.

We suggest you use Warwick—one of America's largest chemical research and manufacturing companies built on and devoted to products for this industry—for *all* your chemical needs.

You'll enjoy high standards of performance, you'll be assured perfect compatibility between materials, and you can usually cut inventory, buying and book-keeping costs by using a single leading source.

APPLICATION	NAME	COTTON	RAYON	WOOL	NYLON	SILK	LINEN	CHEMICAL NATURE
ANTI-SLIP	WEAVE-LOK®		X		X			water-soluble processed natural resin
ANTI-SLIP	FORMASET® HG		X	X	X			inorganic polymer semi-durable
COATING								
NON VOLATILE	PLASTISOL	TEXTILES, PAPER						vinyl resin dispersions
VOLATILE	ORGANOSOL	TEXTILES, PAPER						vinyl resin dispersions
COLOR FIXATIVE	WARCOFIX®	X	X	X	X	X	X	quarternaryammonium compound
COLORS, DISPERSED	SUNTONE®	VINYL						pigments dispersed in resinous and chemical plasticizers
COLORS, PAD-DYEING	SUNTONE®	X	X	X	X	X	X	dispersed pigments and resinous binders
COLORS, PRINTING	SUNTONE®	X	X	X	X	X	X	dispersed pigments and resinous binders
COLORS, PRINTING	SUNTONE®	PLASTICS						dispersed pigments and resinous binders
FINISHES								
BODYING AGENTS	SETOLE® AF	X						aqueous dispersions of thermo-setting resins
CRUSH RESISTANT	FORMASET® SN		X					methylolurea type thermo-setting resin
DULLER	ANTILUSTEROLE®		X		X			aqueous dispersion of inorganic pigments
FIRE RETARDANT	WARCONYL® A	X	X					blend of inorganic salts
GLAZING (DURABLE)	FORMASET® 10-D	X						dimethylurea-ether polymer
GLAZING (DURABLE)	FORMASET® SN		X					methylolurea type thermo-setting resin
MILDEW PROOFING	KUPRATE®	X	X	X	X	X	X	solubilized copper 8 quinolinolate
MILDEW PROOFING	G-4 EMULSION-20	X	X	X	X	X	X	emulsion containing 20% G-4. Compatible with emulsion-type water repellents.
RIBBON FINISH	SETOLE® D EXTRA		X					water-soluble alkyd resin
SEWABILITY FINISH	WARCO® A 221	X						non-ionic emulsion
SHRINK RESISTANT	FORMASET® SR	X	X					ketone aldehyde type thermo-setting resin
SHRINK RESISTANT	FORMASET® SN		X					methylolurea type thermo-setting resin
SHRINK RESISTANT	FORMASET® 10-D		X					partially polymerized urea-formaldehyde type resin
SHRINK RESISTANT	FORMASET® C	X	X	X	X		X	controlled formalizer of fibers—highly wash resistant
SOFTENERS								
ANIONIC	APPRETOLE®	X	X				X	alkyl amide dispersion
CATIONIC	APPRAMINE®	X	X		X		X	substituted fatty amide
HEAVY-BODIED	TORRIDEX®	X	X					sulfonated tallow
OXIDATION RESISTANT	WARCOLENE® 171	X	X				X	sulfated fatty acid ester
WATER REPELLENT DURABLE	NORANE® R	X	X					chloromethylated quaternary ammonium compound
WATER REPELLENT DURABLE	NORANE® W			X	X			wax emulsion plus metal salt complex
WATER REPELLENT RENEWABLE	IMPREGNOLE®	X	X	X	X	X	X	wax emulsion with polyvolent salts
GAS FADING INHIBITOR	WARCO® GFI		X					high molecular weight amino compound
GAS FADING INHIBITOR	WARCO® GND		X					mixed organic amines (non-durable type)
KIER BOILING COMPOUNDS	KIEROLE®	X	X				X	sulfonated fatty acids
KIER BOILING COMPOUNDS	COLOROLE®	X	X				X	sulfonated fatty acids
LUBRICANT (YARN, FABRIC)	WARCOLENE®	X						solubilized oil
LUBRICANT	WARCO® A 221	X						non-ionic emulsion
PENETRANTS—REGULAR	WARCOSOL®	X						sodium alkylnapthalenesulfonate
PENETRANTS—NON-FOAMING	WARCOSOL® NF	X	X	X				blend of organic esters
PENETRANTS—MERCERIZING	EUMERCIN®	X						cresylic and non-cresylic types
PIGMENT PRINT BINDERS	SUNTONE® CLEARS	X	X					emulsified resinous compounds
PIGMENT PRINT BINDERS	FORMASET® 20	X	X					partially polymerized urea-formaldehyde resin
TAR AND GREASE REMOVER	LANOLE®	X	X	X	X			detergent solution in organic solvent
SYNTHETIC DETERGENT	SULFANOLE® KB	X	X	X	X	X	X	sodium alkylarylsulfonate
SYNTHETIC DETERGENT	SULFANOLE® CP	X	X	X	X	X	X	sulfated fatty amide
SYNTHETIC DETERGENT	SULFANOLE® S GEL Conc.	X	X	X	X	X	X	sulfonated fatty amide
SYNTHETIC DETERGENT	SULFANOLE® AN	X	X	X	X	X	X	fatty acid amine condensate
WETTING AND REWETTING	WARCOSAN® B Conc.	X	X					sodium alkyl ester sulfate
WOOL SCOURING	LANOLE® B		X	X				stabilized organic solvent soap compound

*Trade Mark Reg.

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CHEMICAL
COMPANY, DIVISION

104th STREET AND 44th AVENUE, LONG ISLAND CITY, NEW YORK

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Crane Alloy Cast Iron Gate Valve, 18-8 Mo. trimmed. 200 Pounds W.O.G.

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CRANE VALVES

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High Corrosion Resistance at Low Cost

Crane No. 14477 Alloy Cast Iron Gates give excellent service where "all-iron" or "brass trimmed" valves fail, due to corrosion of seating surfaces. Body rings, stem, and disc-faces are Crane 18-8 Mo. Conditions permitting, these valves, with low nickel alloy cast iron body, are ideal substitutes for hard-to-get, more expensive, all 18-8 stainless steel valves.

O.S. & Y. design keeps stem threads from contact with line fluid; straight through ports assure unrestricted flow, minimize turbulence and corrosive action. Extra-long guides keep disc travel true.

Your Crane Representative will gladly show you why Crane Valves give better performance at lower ultimate cost—why you should insist on Crane Quality.

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Before this packaging improvement, rope was shipped in ordinary boxes, stored in retail backrooms and basements, sold whenever there was a call for it.

Now, this modern H & D corrugated shipping-display box puts rope in its proper place . . . on retail counters. The attractive, colorful display box reminds customers of their rope needs and keeps the coils protected and tangle-free. Inventory problems are simplified . . . impulse sales are quickened . . . rope profits boosted. Here is another packaging problem solved by H & D Package Engineers. Give your product the advantages of H & D corrugated boxes: easy packing, better product protection, freight savings, economy, increased sales through better display. For the full story, write for the 14-volume "Little Packaging Library." Hinde & Dauch, 5201 Decatur St., Sandusky, O.

H&D

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Authority on Packaging

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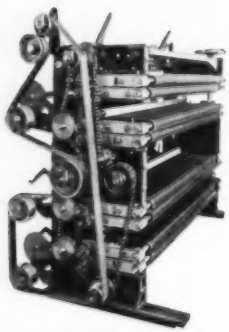
What's So "DIFFERENT" About Bull Dog Rub Aprons?



Illustrated above is a typical application of Bull Dog Rub Aprons in a leading manufacturer's Card Condenser.

Boss carders who have actually used Bull Dog Card Condenser Rub Aprons can probably give you the best answer to this question, in terms of dramatic results.

They will tell you, for instance, that because Bull Dog Rub Aprons are made of a specially formulated patented synthetic material, they are stronger than other types of rub aprons . . . and last much longer.

Bull Dogs permit increased card condenser production up to 25% or more. They increase jack-spool capacity 40-50% by weight, resulting in lower handling charges and longer runs. Roving is firmer and denser. End breakage is cut to a minimum.

These same users will tell you that they are getting longer machine life and lower maintenance costs . . . because Bull Dog Aprons can be run up to 30% slower where only ordinary rubbing is required.

And they will tell you about Bull Dog's patented end construction with enlarged rivet brads which securely anchor the buttons to the apron end . . . as many buttons as you want . . . spaced just as you want them spaced.

These are by no means all of the advantages obtainable with Bull Dog Rub Aprons. Which brings up the point that you deserve to know the full story and all the facts.

Contact your local distributor, or write direct . . . *today*.

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DEPENDABLE RUGGEDNESS

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

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Stemalloy*

The ONLY Stem To Pass The 300,000 Cycle Test

In the laboratory, there's one *sure* test of a valve stem. Put it on a wear test machine that opens and closes the valve under controlled torque. Put steam in the line. Record the number of openings and closings before the stem fails.

The life of a conventional stem alloy under such conditions is anywhere from 3,000 to 43,000 cycles. One so-called "never wear out" stem failed at 92,287 openings and closings.

Lunkenheimer's exclusive silicon bronze — Stemalloy* — was still operating at 305,000 cycles . . . more than 3 times as long as any other stem material.

But here is the final proof — overwhelming proof . . .

In more than ten years of active field service, not one Stemalloy stem has been returned due to thread wear. Literally millions are now in use.*

This is the bronze stem that assures you longer valve life, less downtime, better operating efficiency in Lunkenheimer Valves.

Ask your distributor for more details. And write today for your copy of descriptive folder 534 to The Lunkenheimer Company, Box 360R, Cincinnati 14, Ohio.

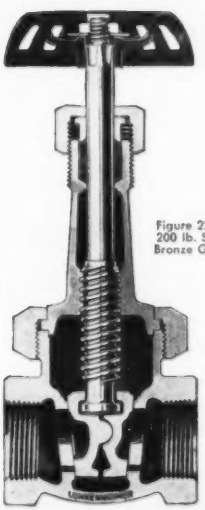
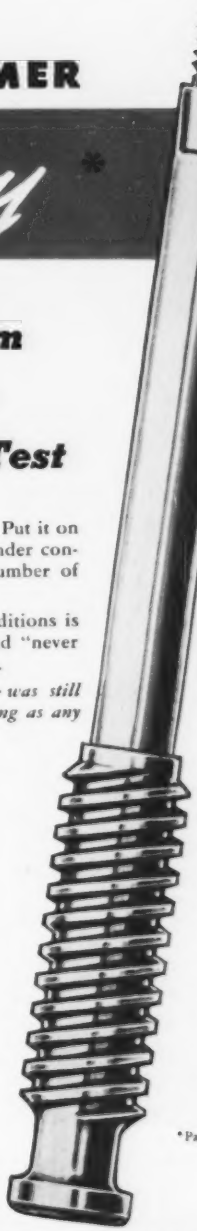


Figure 2228
200 lb. S.P.
Bronze Gate

L-651-10



*Patented Alloy

BRONZE • IRON • STEEL

LUNKENHEIMER

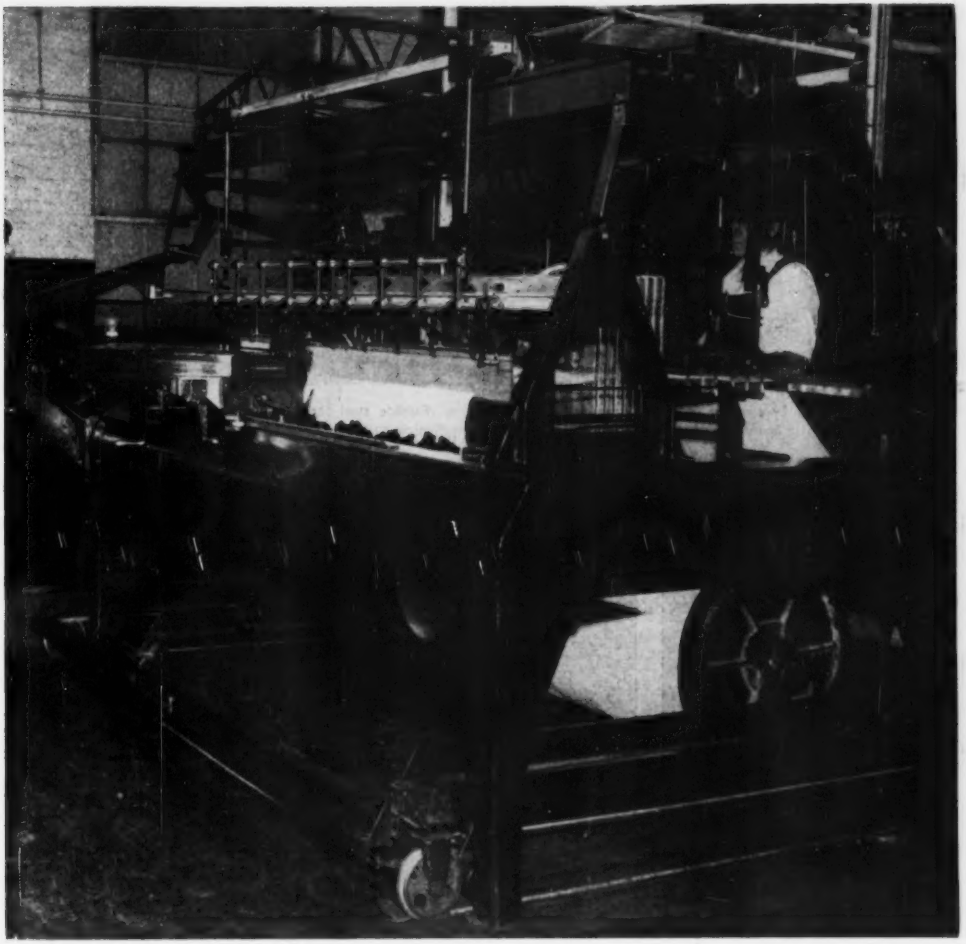
THE ONE *Great* NAME IN VALVES

He's a great skier—

Art Devlin established an American Ski-Jumping record in 1950 with a distance of 307 feet. He is four times winner of the Paul Bietela Trophy, awarded him in 1942, 1946, 1949 and 1950 for being the American-born skier scoring highest in National Ski-Jumping Championships.

BUT how does he compare with Devlin? . In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard for comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. 51-gauge, 60-gauge.

TEXTILE MACHINE WORKS • READING, PENNA.



DRAWING-IN MACHINE saves from 4½ to 13½ hr. over hand methods in one Georgia cotton mill.

Mill Makes Drastic Cut in DRAWING-IN COSTS

HIGHLIGHTS: Installation of drawing-in machines has allowed a mill to draw a small warp in 40 min. Hand drawing took 300 min. Labor savings amount to at least 67%—sometimes up to 80%.

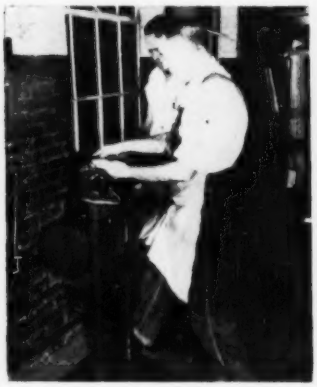
By JAMES H. KENNEDY,
Southern Editor, TEXTILE WORLD

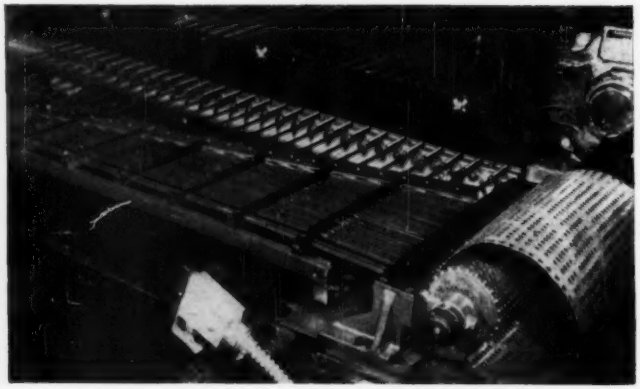
LABOR COSTS FOR DRAWING-IN have been cut by at least two-thirds at a mill in Georgia since they started using the new Barber-Colman drawing-in machines. Quality is more dependable, and mill versatility is greatly increased.

"We're very well pleased with the new machines," said the superintendent of this mill. "For example," he said, "now we can get a sample woven in less time than it used to take us to draw it in."

This mill makes fancy cotton goods, not stock items.

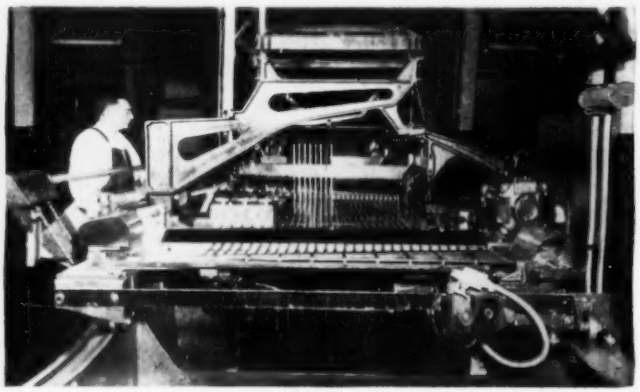
How the Drawing-In Machine Works





PATTERN IS PUNCHED by operator as second man calls off instructions. Flexible steel sheet can be used indefinitely, once punched. "Brains" of the drawing-in machine, shown in right-hand picture, is this complicated pattern mechanism. It doesn't give any trouble, though.

AFTER SELECTOR PICKS END, needle grasps it (arrow) and starts on return trip through dropwires, harnesses, and reed. Needle then retracts into semicircular casing (in circle) after drawing end through reed at front of machine.



OPERATOR JUST STANDS at the back of the machine as it draws in this warp without a lease. End view shows arrangement of harnesses. Dropwires are at left, and reed at right. Needle draws end from left to right.

Changes must be made rapidly to meet changing demands. And the mill is more flexible now that drawing-in costs have been reduced so much.

Actual Savings

1. Sheeting—1,944 ends of 14s/1
   2 harnesses, 4 banks of drop wires

   Hand Drawing
   1 operator at 400 ends per hr. would take 5 hr., or 1.6 warps per 8 hr.
   Plus 1 back man to service 8 operators.

   Cost

Operator	5 × $1.36 =	$6.80
Back man	5 × $1.035 =	0.65
		$7.45 per warp

   Machine Drawing
   On 2-harness work, the machine draws 3,000 ends per hr.
   This warp would take 0.67 hr., or 12 warps per 8 hr.
   Three operators are required.

   Cost

Operator	0.67 × $1.36 =	$0.91
Back man	0.67 × $1.10 =	0.73
Harness girl	0.67 × $1.05 =	0.70
		$2.34 per warp

   Labor Saving—68.6%

2. Twill—4,732 ends of 14s/1
   4 harnesses, 4 banks.

   Hand Drawing
   1 operator at 400 ends per hr. would take 11.83 hr., or 0.68 warps per 8 hr.

   Cost

Operator	11.83 × $1.36 =	$16.10
Back man	11.83 × 1.035 =	1.53
		$17.63 per warp

   Machine Drawing
   On 4-harness work, the machine draws 4,800 ends per hr. This warp would take about 1 hr.

   Cost

Operator	1.00 × $1.36 =	$1.36
Back man	1.00 × $1.20 =	1.20
Harness girl	1.00 × $1.05 =	1.05
		$3.51 per warp

   Labor Saving—80.2%

3. Gabardine—5,600 ends of 22s/1
   11 harnesses, 6 banks

   Hand Drawing
   1 operator at 400 ends per hr. would take 14 hr., or 0.57 warps per 8 hr.

   Cost

Operator	14 × $1.36 =	$19.05
Back man	14 × $1.035 =	1.81
		$20.86 per warp

   Machine Drawing
   On this 11-harness work, the machine averages 4,200 ends per hr. This warp would take 1.33 hr., or 6 warps per 8 hr.

   Cost

Operator	1.33 × $1.36 =	$1.81
Back man	1.33 × $1.10 =	1.46
Harness girl	1.33 × $1.05 =	1.40
		$4.67 per warp

   Labor saving — 77.6%

Mill Layout

This mill has two drawing-in machines. A 6-harness model was purchased in May, 1950. A 22-harness machine arrived at the mill in January, 1951. Both machines have had a thorough tryout and are now an accepted part of the mill operation.

The larger machine is arranged with tracks and an extra warp stand. Machine downtime is minimized this way, because a new warp can be prepared while a warp is being drawn.

The 22-harness machine is rated at 140 ends per min. with maximum rate of 180 ends per min. The actual number of harnesses being drawn, however, determines running speed. Maximum efficiency is attained when the machine draws in the greatest number of harnesses it can hold, and when large warps are drawn. Large warps minimize the ratio of preparation time to drawing time.

Training Time

Since this mill had the older drawing-in machines, their training time for the new ones was negligible.

Disadvantages

There just aren't any, according to this mill. If the machine makes a mistake and picks two steel heddles instead of one, the drawing-in needle may break. "But this is to be expected of any machine once in a while," said the superintendent. And it doesn't happen often enough to detract from the value of the machine.

How The Machine Works

A flexible steel needle, somewhat similar to a long drawing-in hook, is actuated by a complicated pattern mechanism. The needle draws an end through dropwires, heddles, and reed in one long stroke.

Steel heddles with alternating keyhole slots are used by the machine.

Patterns are punched for each warp style and can be used again and again. Two men punch out the pattern on a little pattern-making machine. One man calls out the pattern while the other man operates the device.

Drawing-in Machine Can Fit into Your Program

► It doesn't matter what fiber you work with. The machine will draw cotton, filament, spuns, woolen, worsted, and monofilament.

And you don't have to be on fancy goods to justify the expense. One Southern mill, with almost all cam looms, is getting a machine just because it draws in faster than any other method. When a major style change comes along, speed is important. And, of course, the cost of the change-over will be much less with the device.

If you are interested in the machine and have not started to change to the special heddles required, you'd better start now. Gradual replacement of your present heddles with the special steel heddle required will be much easier on your budget and on your operation than a sudden swap just before the unit arrives.

The drawing-in machine can accommodate harness lengths as follows:

48-in. model—54-in. replacement over-all harness length;
66-in. model—72-in. harness length;
86-in. model—92-in. harness length.

Either a single or double beam or a split sheet can be drawn in with the machine. A 1x1 lease in a double beam on split sheet is also possible.

This latest model described here, Model F, is furnished in the following capacities at no difference in cost: reed, 14 harness, 8 banks of drop wires; reed, 16 harness, 6 banks of drop wires; reed, 18 harness, 4 banks of drop wires.

Drop-wire capacity is from 9/32 to 3/4 inch in width.

DETAILS OF WHITIN WOOLEN BREAKER CARD

	Dia.-In.	Circum. on Wire	Wire No.	Foundation	Gauge	Typical Operating Set-Up Rpm.	In. per Min.
Feed rolls	2⅝	9.82	Metallic	4 threads interlocking	28	1	9.82
Lickerin	9⅞	31.42	Metallic	4 threads interlocking	28	25	785.50
Lump roll	4¼	14.92	Metallic	10 threads, hardened points, surface wind	24	25	373.00
Breast cylinder	25	79.32	Metallic	12 threads, hardened points, surface wind	28	51	4045.32
1st stripper	3⅛	10.60	Metallic	12 threads, hardened points, surface wind	28	128	1356.80
1st worker	6⅜	20.81	Metallic	12 threads, hardened points, surface wind	28	7.50	156.07
2nd stripper	3⅛	10.60	Metallic	12 threads, hardened points, surface wind	28	128	1356.80
2nd worker	6⅜	20.81	Metallic	12 threads, hardened points, surface wind	28	7.50	156.07
3rd stripper	3⅛	10.60	Metallic	12 threads, hardened points, surface wind	28	128	1356.80
3rd worker	6⅜	20.81	Metallic	12 threads, hardened points, surface wind	28	7.50	156.07
Tumbler	14	46.72	24/30's	D. C. 6-ply Flexifort	30	112	5232.64
Cylinder	60	191.21	26/30's	D. C. 6-ply Flexifort	—	72	13767.12
1st stripper	2¾	11.39	26/30's	D. C. 6-ply Flexifort	28	360	4100.40
1st worker	8	27.88	26/30's	D. C. 6-ply Flexifort	28	7.50	209.10
2nd stripper	2¾	11.39	26/30's	D. C. 6-ply Flexifort	28	375	4271.25
2nd worker	8	27.88	26/30's	D. C. 6-ply Flexifort	28	7.125	198.64
3rd stripper	2¾	11.39	26/30's	D. C. 6-ply Flexifort	28	360	4100.40
3rd worker	8	27.88	26/30's	D. C. 6-ply Flexifort	28	7	195.16
4th stripper	2¾	11.39	26/30's	D. C. 6-ply Flexifort	28	360	4100.40
4th worker	8	27.88	26/30's	D. C. 6-ply Flexifort	28	6.75	188.9
5th stripper	2¾	11.39	26/30's	D. C. 6-ply Flexifort	28	360	4100.40
5th worker	8	27.88	26/30's	D. C. 6-ply Flexifort	28	6	167.28
6th stripper	2¾	11.39	26/30's	D. C. 6-ply Flexifort	28	360	4100.40
6th worker	8	27.88	26/30's	D. C. 6-ply Flexifort	28	8	223.04
Fancy stripper	1⅞	9.03	26/30's	D. C. 6-ply Flexifort	28	620	5598.60
Fancy	9¾	38.48	26/28's	Low-bend leather (pressed point 3R. 3T. 3N)	—	520	20009.60
Fancy stripper	2¾	12.17	30's	6-ply cotton	24	620	7545.40
Doffer	36	115.84	26/30's	D. C. 6-ply Flexifort	28	7.75	820.26
Dickey	3⅜	14.53	30's	6-ply cotton	34	7.75	126.00
Doffer comb	——	——	——	——	30	1450	——

DETAILS OF WHITIN WOOLEN INTERMEDIATE CARD

	Dia.-In.	Circum. on Wire	Wire No.	Foundation	Gauge	Typical Operating Set-Up Rpm.	In. per Min.
Feed rolls	2⅝	9.42	5 thread	#526U11	28	2.75	25.90
Lickerin	4½	16.10	15/24's	Leather	30	2240	3864.00
Back fancy	3	15.70	28's	Leather	28	495	7771.50
Tumbler	9⅛	31.43	28's	Flexifort	30	175	5500.25
Cylinder	60	190.19	30/34's	D. C. Flexifort	—	72	13693.68
1st stripper	2¾	11.38	30/34's	D. C. Flexifort	30	430	4993.40
1st worker	7	24.74	30/34's	D. C. Flexifort	30	6.75	166.99
2nd stripper	2¾	11.38	30/34's	D. C. Flexifort	30	430	4993.40
2nd worker	7	24.74	30/34's	D. C. Flexifort	30	6.25	154.62
3rd stripper	2¾	11.38	30/34's	D. C. Flexifort	30	430	4993.40
3rd worker	7	24.74	30/34's	D. C. Flexifort	30	5.875	145.34
4th stripper	2¾	11.38	30/34's	D. C. Flexifort	30	430	4993.40
4th worker	7	24.78	30/34's	D. C. Flexifort	30	5.25	129.88
5th stripper	2¾	11.38	30/34's	D. C. Flexifort	30	430	4993.40
5th worker	7	24.78	30/34's	D. C. Flexifort	30	5.125	126.79
6th stripper	2¾	11.38	30/34's	D. C. Flexifort	30	430	4993.40
6th worker	7	24.78	30/34's	D. C. Flexifort	30	5	123.70
7th stripper	2¾	11.38	30/34's	D. C. Flexifort	30	430	4993.40
7th worker	7	24.78	30/34's	D. C. Flexifort	30	4.975	120.60
Fancy stripper	1⅞	9.03	30's	6-ply Cotton	28	600	5418.00
Fancy	9¾	38.48	28/30's	Low-bend leather pressed 3R, 3T, 3N	—	510	19624.80
Fancy stripper	2¾	11.78	30's	6-ply cotton	24	600	7068.00
Doffer	36	115.82	30/34's	D. C. Flexifort	28	6	694.92
Dickey	3⅜	13.74	30's	6-ply cotton	34	8	109.92
Doffer comb	——	——	——	——	30	1410	——

THE TAPE CONDENSER is probably the most critical point in the carding operation. Excessive stretch on acrylic fibers must be avoided.

HIGHEST DRAFT PERMISSIBLE in spinning depends on crimp in fiber, slipperiness of fiber finish, and higher average length of staple.

Handling the Newer Synthetics On the WOOLEN SYSTEM

▶ Here's vital "how to" information on picking, oiling, blending, carding, and spinning of Acrilan, Orlon, and dynel either in 100% form or in blends with wool, rayon, or acetate. Some key points:

- **Easy on the picking**
- **Don't lubricate the acrylic fibers**
- **Use static eliminators, especially if running 100% synthetics**
- **Don't stretch synthetics excessively on the tape condenser**
- **Use only lightweight jack spools**

By ROBERT A. SMITH

Woolen & Worsted Div., Textile Research Dept., American Viscose Corp.

PERHAPS THE MOST important thing to remember in processing acrylic fibers on woolen machinery is that you are handling completely new fibers. Their characteristics should be studied before you use them, and they should be studied through every operation. They should not be tossed into the machines, handled just as you would wool, and then be condemned because they do not necessarily react the same as wool. You wouldn't think of treating a 56s wool the same as you would a 64s wool, nor would you expect to get the same product from it. Why, therefore, should not these new fibers be given an identity of their own?

Based on a talk delivered before a recent meeting of the National Association of Woolen & Worsted Overseers.

Picking—Take It Easy

All synthetic fibers come to you perfectly clean and need no dusting, burr picking, etc. In fact, the picking should be of the mildest. The synthetic stocks should just be shaken to disturb the compactness created by baling. In other words, take it easy.

In preparing to make a blend, the synthetic fibers alone should be given one preliminary opening before they are introduced to wool. This opening should be done on a type of opener that has straight pins rather than the cockspur type of pin. The action of this type of picker is much more gentle and reduces the fiber breakage considerably.

After the synthetic has been given a preliminary opening, you can proceed with the actual blending. Thereafter a regular wool picker can be used, and the fiber breakage will be reduced to a minimum because the synthetic has already been opened

DETAILS OF WHITIN WOOLEN FINISHER CARD

	Dia.-In.	Circum. on Wire	Wire No.	Foundation	Typical Operating Set-Up Gauge	Rpm.	In. per. Min.
Feed rolls	2⅜	9.42	Metallic	5 threads — ℅ 526U11	28	2.75	25.91
Lickerin	4½	16.10	15/24's	Leather	30	230	3370.30
Back fancy	3	15.70	28's	Leather	28	410	643.70
Tumbler	9⅛	31.43	32's	5-ply rubber face	30	5160.80	5028.80
Cylinder	60	190.19	35's	Flexifort	—	71	13503.49
1st stripper	2¾	11.38	35's	Flexifort	30	420	4779.60
1st worker	7	24.74	35's	Flexifort	30	6.50	160.81
2nd stripper	2¾	11.38	35's	Flexifort	30	4220.22	4779.60
2nd worker	7	24.74	35's	Flexifort	30	6.25	154.63
3rd stripper	2¾	11.38	35's	Flexifort	30	420	4779.60
3rd worker	7	24.74	35's	Flexifort	30	6.125	151.53
4th stripper	2¾	11.38	35's	Flexifort	30	420	4779.60
4th worker	7	24.74	35's	Flexifort	30	6	148.44
5th stripper	2¾	11.38	35's	Flexifort	30	420	4779.60
5th worker	7	24.74	35's	Flexifort	30	5.875	145.35
6th stripper	2¾	11.38	35's	Flexifort	30	420	4779.60
6th worker	7	24.74	35's	Flexifort	30	5.75	142.26
7th stripper	2¾	11.38	35's	Flexifort	30	420	4779.60
7th worker	7	24.74	35's	Flexifort	30	5.625	139.16
8th stripper	2¾	11.38	35's	Flexifort	30	420	4779.60
8th worker	7	24.74	35's	Flexifort	30	6.25	154.63
Fancy stripper	1⅞	9.03	30's	6-ply cotton	28	590	5327.70
Fancy	9¾	38.48	33's	Low-bend leather 3R, 3T, 5N	—	490	18855.20
Fancy stripper	2¹³⁄₁₆	12.38	30's	6-ply cotton	26	590	7304.20
Doffer	36	115.82	35's	Flexifort	30	5.75	665.97
Dickey	3⅜	13.74	30's	6-ply cotton	24	5	68.70
Doffer	—	—	—	—	30	1360	—
				TAPE CONDENSERS			
Dividing rolls	6.50	20.42	—	—	28	30.	612.60
Aprons	—	27.25	—	—	24	32.33	780.00
Eccentric	—	—	—	—	—	290	—
Spool drum	6.50	20.42	—	—	—	38	780.00

DETAILS OF DAVIS & FURBER WOOLEN FINISHER CARD

	Dia.-In.	Circum. on Wire	Wire No.	Foundation	Typical Operating Set-Up Gauge	Rpm.	In. per. Min.
Feed	3	9.42	Garnet ℅ 2LK	8 threads per inch	28	3.75	35.32
Lickerin	7	23.56	Garnet ℅ 3LK	10 threads per inch	30	150	3524.00
Tumbler	10	34.55	Ang. 32's	5-ply rubber face	30	215	7428.25
Cylinder	60	190.85	30/34's	6-ply felt face	—	75	14313.75
1st stripper	2¹³⁄₁₆	12.89	30's	6-ply felt face	28	360	4640.40
1st worker	8	27.49	30/34's	6-ply felt face	28	6.75	185.55
2nd stripper	2¹³⁄₁₆	12.89	30's	6-ply felt face	28	360	4640.40
2nd worker	8	27.49	30/34's	6-ply felt face	28	6.25	171.81
3rd stripper	2¹³⁄₁₆	12.89	30's	6-ply felt face	28	360	4640.40
3rd worker	8	27.49	30/34's	6-ply felt face	28	6	164.94
4th stripper	2¹³⁄₁₆	12.89	30's	6-ply felt face	28	360	4640.40
4th worker	8	27.49	30/34's	6-ply felt face	28	5.875	161.50
5th stripper	2¹³⁄₁₆	12.89	30's	6-ply felt face	28	360	4640.40
5th worker	8	27.49	30/34's	6-ply felt face	28	5.750	158.06
6th stripper	2¹³⁄₁₆	12.89	30's	6-ply felt face	28	360	4640.40
6th worker	8	27.49	30/34's	6-ply felt face	28	5.625	154.63
7th stripper	2¹³⁄₁₆	12.89	30's	6-ply felt face	28	375	4833.75
7th worker	8	27.49	30/34's	6-ply felt face	28	7	192.43
Fancy	9⅞	38.87	30's	Leather	—	510	19823.70
Fancy stripper	2¹³⁄₁₆	12.89	30's	D. C. Flexifort	24	515	6638.35
Doffer	36	118.59	32/36's	6-ply felt face	28	6	711.54
Dickey	2¹³⁄₁₆	12.89	30's	D. C. Flexifort	34	10	128.90
Doffer comb	—	—	—	—	30	1165	—
				TAPE CONDENSER			
Dividing rolls	6⅞	20.22	—	—	24	31	626.82
Aprons	—	24.50	—	—	24	36.70	900.00
Eccentric	—	—	—	—	—	320	—
Spool drums	6¾	21.20	—	—	—	45.25	960.00

and because there is a percentage of wool along with it to cushion the shock.

Oiling—Depends on What You Have

During the picking operation it is customary to add whatever fiber lubricant is deemed necessary. I am going to divide this into two parts. The first part concerns blends of viscose or acetate with wool, and the second part concerns blends of any of the other new fibers with wool.

(1) It is customary to add some form of fiber lubricant to viscose and acetate staples, with one important exception. In making carpet yarns, no lubricant whatever, except water, should be applied to any fiber, natural or synthetic. Otherwise, the carpet shows extreme soiling tendencies.

Nearly all mill installations have means for adding the lubricant just as the stock enters the picker or, in some cases, as it leaves the picker. When either acetate or viscose is blended with wool, the emulsion can be applied just as it enters the picker. We suggest 11 qt. of emulsion per 100 lb. of stock. The emulsion should be made up of 40% oil and 60% water. As the blend enters the feed rolls of the picker, arrange to have the wool on top, so that it gets the direct application of emulsion. The rayon will pick it up from the wool without becoming thoroughly soaked. Wet rayon also becomes matted, and the picking and carding operations tend to cause considerable fiber breakage in opening up these matted sections.

Another way of obtaining the same result that may be more practical for certain mill installations would be to oil the wool separately at the picker, blow it into bins, and let it stand overnight. The next day, blend this wool with the rayon and run both through a picker with no further application of lubricant. An adequate treatment would be through the picker to a bin, from the bin through another picker, and then to the card bin.

(2) Now we will deal with the other fibers except viscose and acetate. This part is very important. All of these new fibers have been supplied by the fiber manufacturer with some sort of finish that is intended to be sufficient lubricant for picking, carding, and spinning. Nothing needs to be added. Like anything new, some of these fiber finishes are better than others, and consequently some fibers behave better than others. But nevertheless, remember that there is some sort of finish on all these newer fibers. If you are having difficulty, you should consult the manufacturer of the fiber before you add any other type of lubricant to it. In fact, some of the customary fiber lubricants react with some of these chemical finishes, and the result is worse than either of the lubricants alone. So, work closely with the original maker of these new fibers. All of them have technical staffs, and they will be glad to help you with your problems.

Most synthetic fibers, with the exception of viscose and acetate, carry low moisture content. Some of them are almost water repellent. Thus, they are apt to generate static, and that is one of the reasons why the fiber manufacturers put on their own type of fiber lubricant. Most all of these lubricant contain an antistatic agent. However, if you are going to embark on any large program of evaluating the newer synthetic fibers, I would suggest that you equip your cards with static eliminators as a safety precaution. Your humidity should be kept in the neighborhood of 60 to 65% r.h. All these precautions are suggested particularly if you are going to run any 100% synthetic fiber through woolen cards. With wool blends, static is not usually a problem.

Loftiness May Give Trouble

In feeding these newer fibers and/or blends to a woolen card, you will find that some of the fibers are very lofty and bulky. This loftiness may cause a little trouble in the weigh pan and on the first feed apron. The remedy here is to make more frequent and lighter drops and to speed up the feed rolls to compensate for the lighter feed.

The accompanying tables give complete card settings used in our experimental department. We have found it necessary to make very few changes in either settings or speeds from the figures given on these sheets. These sheets are based on running 5.5-den. fibers, and are just about the same as you would run on reasonably fine wool. When running 3.0-den. fibers, which means that there are many more fibers per pound, it is suggested that the speed of the workers be increased from 20 to 30% to provide ample points for the fibers to engage. Also, when running 3.0-den. or finer fibers, it is usually necessary to use a three-card set. For all fibers coarser than 3.0-den. a two-card set is ample if 100% synthetic fiber is being processed. If you have wool blends, you will have to be the judge of how much carding the wool content will need.

At any point in your carding where a broad-band feed is used, you may have to watch the behavior of some of the synthetic fibers. As the broad-band feed lays the web of fibers on the feed table, some stocks have a tendency to creep in while others do not. This means that you will have to adjust so that the outside ends are amply provided for. Again, on 3.0-den. stock or finer, it may be necessary to speed up your fancy a bit and set it in deeper, about $\frac{1}{32}$ to $\frac{1}{16}$ in.

If lengthwise ripples show in the finisher web, these may be taken out by raising the arc of the doffer comb, slowing it down a little, and adjusting the speed of tape condensers to allow a very slight sag in the web. This condition is sometimes encountered with synthetic fibers.

The adjustments necessary in carding are comparatively few, and I am sure that any alert carder will not have too great difficulty in this department.

Tape Condenser—A Critical Point

The operation of the tape condenser is one of the most important elements of handling synthetic fibers. At no point in the tape condenser, from doffer comb to card spool, should excessive stretch be put on synthetics. What is "excessive stretch" for each fiber? You will have to find that out for yourself, but watch for it and err on the side of too little rather than too much stretch. Be sure there is no stretch, and then tighten up a little to keep the work under control.

Synthetics in general respond well to rubbing. Crimped rayon takes less rub than uncrimped rayon. Orlon, Acrilan, and dynel are harder to rub, and the rub should be set down a little.

The usual setting for the apron rolls is a 26 gauge, with the tension roll in the center set with a 28 gauge. It may be necessary in certain circumstances to set the tension roll up to a 30 gauge.

The loftiness of some of these stocks may cause a little trouble as fibers pass through the rub motion. If narrow tapes are used, the loftiness may cause a joining of adjacent ends as they go through. The remedy here is to shorten the stroke, speed up the rub, or both. Sometimes it may be necessary to increase the tension slightly between tapes and aprons.

Another precaution would be to have a static eliminator located directly over the delivery end of each rub bank.

Use Lightweight Spools

We have definitely determined

(Continued on page 246)

PACKAGE-DYEING EQUIPMENT at Bates Div., Bates Mfg. Co., includes five large machines, two of smaller capacity, and one for sample dyeing. There are three yarn carriers for each machine.

Bates Saves Time and Labor In PACKAGE DYEING

- Method of handling yarn carriers with lift truck reduces labor, time, and cost
- Panel boards automatically control dyeing temperatures and reversing cycles
- Air valves regulate direct and indirect steam supply
- Air from rotary blowers, under pressure, cuts down-time required for extracting
- Thermostats maintain correct preset temperatures in blower-type dryers

By E. H. **HELLIWELL,** New England Editor, TEXTILE WORLD

Dyeing Machines and Auxiliary Equipment

Dyeing Machines	Spring	Tubes	Pounds	Hp. of Motors
5	500	400	500 to 600	30
1	300	240	300 to 350	20
1	100	80	100 to 120	7½
1	50	40	50 to 60	5

The 50-lb.-capacity machine is used mainly for dyeing samples or for finishing out orders on filling yarn.

Extractors 2	Pressure type, delivering 1,500 cfm. of air	Hp. of Motors 60
Dryers 2	Port type, delivering 3,500 cfm. of air	75

BETTER PROCESS CONTROL, improved dyeing quality, lower labor costs, savings in steam, and time saved in processing are advantages gained by Bates Div., Bates Mfg. Co., Lewiston, Me., in its package dyehouse.

The simple, efficient method of handling a large number of packages as one unit with the assistance of a lift truck has greatly reduced the cost and time for loading and unloading the dyeing and auxiliary machines. With three yarn carriers for each machine, there is no time lost waiting for stock to be processed.

The large dyeing machines have a capacity of 500 springs with a net weight of 600 lb., or 400 tubes with a net weight of 500 lb. Yarn carriers hold either 1⅜-in. tubes or springs.

Packages weigh from 1 to 1¼ lb. each and are wound on standard winders. Dimensions of packages are held to a 6-in. traverse and 5-in. full dia.

The Smith-Drum dyeing machine and all its auxiliary parts are constructed of stainless steel. The equipment is suitable for all types of dyeing, including direct, developed, sulfur, vat, and naphthol. Liquor ratio is approximately 9 to 1. The pump normally supplies about 3½ gal. per min. for each package in the carrier.

CONTROLS. All phases of the dyeing operation are governed by con-

trols that determine the reversing cycle and the temperature. The control boards are designed so that the machine always starts with the flow from the outside to the inside, regardless of the valve setting at the time of stopping.

The direction of the pumping cycle can be controlled to reverse every 120 to 240 sec., depending on the setting. This reversing mechanism is operated by an air cylinder, and the control panel indicates the direction of liquor flow by means of lights. A switch permits reversing of flow by hand when so desired. Dyeing machines are also equipped with a running-wash arrangement that is especially useful in vat dyeing.

Temperature controls on a section of the control panel record the temperature in the dyeing machine and by means of air valves manipulate the direct and indirect steam supply. The direct steam is used only until the desired temperature has been reached; then it is cut off automatically, and the correct temperature is maintained by the indirect steam coil.

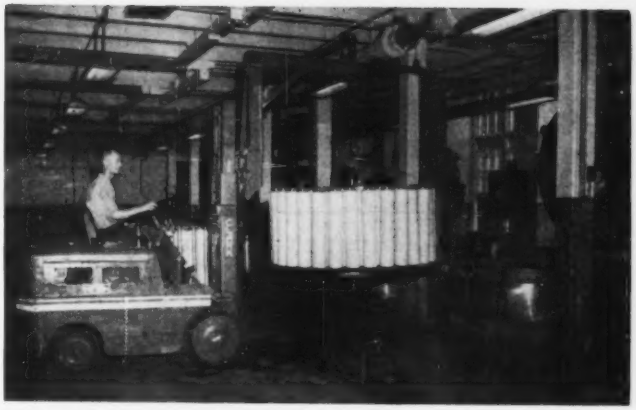
EXTRACTING. Two extracting machines of the pressure type are driven by 60-hp. motors. The rotary blower delivers 1,500 cfm. of air against a resistance of 5 lb. Adapters permit the use of any size yarn carrier in the extractors. About 30 min. is usually sufficient time allowance for pressure extraction.

In the package dryers, hot air is blown through from the inside to the outside of the packages. This air is then reheated and blown over the outside of packages before it is exhausted. This double-drying action hastens the drying process and reduces the heating cost.

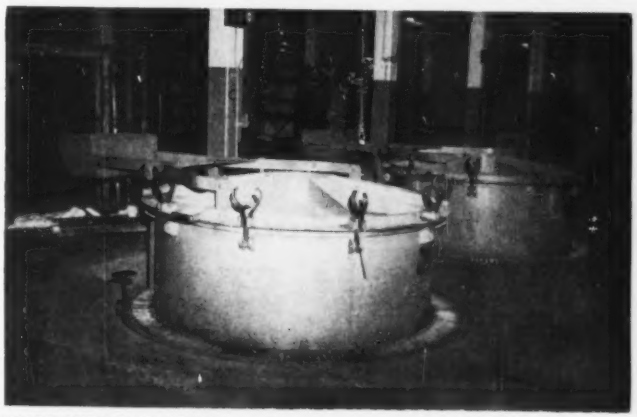
Two dryers of the four-port blower type, equipped with 75-hp. motors, deliver 3,500 cfm. of air against 3-lb. resistance. Each port can be shut off independently. Dryers are also equipped with air filters and thermostats to control the temperature.

Time required for drying varies with the temperature used, the size of yarn, size of package, and number of carriers in the blower. It has been found possible to dry one carrier alone in 1 hr. With the blower filled with carriers, it will take from 5 to 6 hr. to dry each carrier.

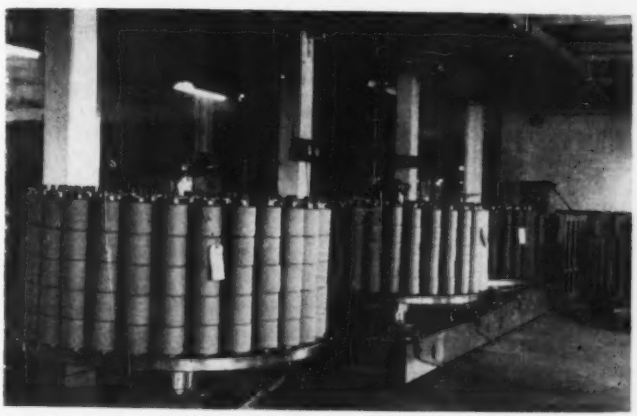
This 6 hr. taken to dry a full blower is much faster than the old tray method of drying, where the drying period was close to 14 hr. In case of an emergency filling shortage, it is possible with this equipment to have yarn ready for delivery in less than 5 hr. This time includes dyeing, extracting, and drying.



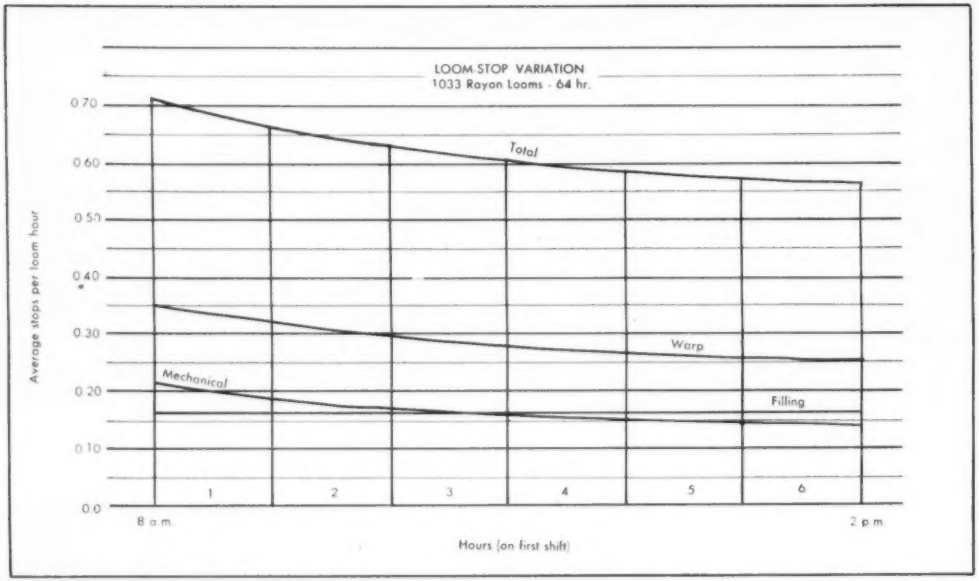
LIFT TRUCK with crane attachment is used to place yarn carriers in dye machines. Three carriers are available for each machine.



PRESSURE-TYPE EXTRACTORS can take any size yarn carrier with the use of adapters. Rotary blower delivers 1,500 cfm. of air.

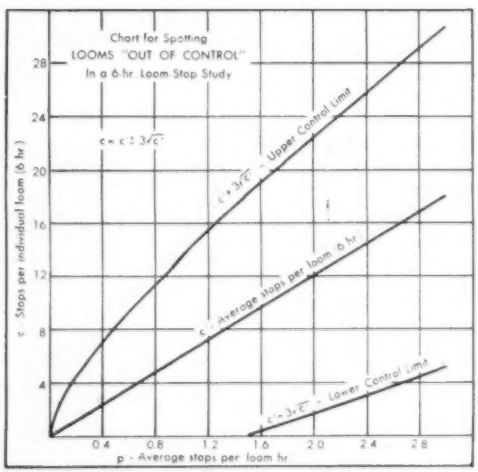


FOUR PORT-TYPE BLOWERS dry the packages. Air is used twice before it is exhausted so the dyehouse can save heat and time.



LOOM STOPS VARY throughout the day, even though they occur at random at any given time. Stops on Monday morning startup are considerably higher than through the week.

When Should You Worry About LOOM STOPS?



LOOMS "OUT OF CONTROL" can be spotted by the use of this chart, which is based on a 6-hr. study. Looms with stops falling above the upper control-limit lines or below the lower control limit are definitely abnormal, and a check into the cause should be made, especially if stops are extra high.

► Weaving men sometimes acquire a lot of gray hairs over a sudden rise in the number of loom stops. They've also done some bragging when stops drop down, only to have them bounce back to normal the next day. Loom stops occur at random and so the laws of probability can be applied to decide when stops are really out of control.

By J. ARCHIBALD TAYLOR

BECAUSE LOOMS, MOST OF THE TIME, stop at random—that is, they don't follow any particular pattern—you can use the laws of probability to help decide if a sudden rise or drop in stops is significant. The number of stops will vary from day to day, but they should vary only within a certain range. The laws of probability and some statistical formulas can help you decide if the stops are getting higher than they should or if some new warp size or loom part you're using is really lowering the number of stops.

When you have these conditions, a set of formulas derived by statisticians can help establish the high and low limits of what your loom stops should be. If the stops go above the range, there's something wrong. If stops fall below the range, so much the better.

Here are the formulas that apply:

n = number of loom hours observed (number of

looms checked multiplied by the number of hours they were checked)

p = stops per loom hour observed

p′ = true value of loom stops per hour

This true value, p′, is really the standard number of loom stops per hour accepted as normal in your mill. It takes a lot of observation and data to actually determine value, but most mill men know about how many stops they should get for certain fabrics under certain conditions.

(1) $p = p' \pm \frac{3\sqrt{p'}}{\sqrt{n}}$ (where p' and n are known)

(2) $\sqrt{p'} = \frac{3 \pm \sqrt{9 + 4np}}{2\sqrt{n}}$ (where p and n are known)

Those are your basic formulas.

To check a loom-stop study to find out if loom stops are higher or lower than normal, use this formula:

Where C = stops per individual loom observed

C' = average stops per loom observed (total stops ÷ No. of looms)

(3) $C = C' \pm 3\sqrt{C'}$

The Formulas in Action

Suppose you've made a study covering 200 loom hours, and you've come up with the result of 0.84 loom stops per hour. If your mill considers 0.70 as the standard, does your result of 0.84 stops mean something is really wrong or is this variation normal?

To find out, use formula (1).

$$p = p' \pm \frac{3\sqrt{p'}}{\sqrt{n}}$$

$$p = 0.70 \pm \frac{3\sqrt{.70}}{\sqrt{200}}$$

$$p = .70 \pm .18$$

$$0.70 + 0.18 = 0.88$$

$$0.70 - 0.18 = 0.52$$

Thus, the average of loom stops per hour observed must be greater than 0.88 or less than 0.52 to be able to state that the study represents a significant change. So, if your study came up with 0.84 stops per loom, don't worry. It may be a normal variation within the laws of probability.

Another application of the formulas can help you decide what the true value, or standard acceptable number, of loom stops should be if you haven't made extensive studies to find out. Formula (2) won't give you the exact value, but it will tell you what limits the true value lies within.

If the average number of loom stops per hour observed (p) in a study of 200 loom hours (n) is 0.70, to find out in what range the true value of stops per loom hour (p′) lies, use formula (2).

$$\sqrt{p'} = \frac{3 \pm \sqrt{9 + 4np}}{2\sqrt{n}}$$

$$= \frac{3 \pm \sqrt{9 + 560}}{2\sqrt{200}}$$

$$= \frac{3 \pm \sqrt{23.85}}{28.28}$$

$$= 0.54 \text{ or } 0.90$$

Thus, the true value of stops per loom hour (p′) represented by the study lies somewhere between 0.54 and 0.90.

In another case, you might be checking stops on warps slashed with a new size against warps slashed by your standard or previous method. If the loom-stop study shows fewer stops for the new size, don't rush out and buy a carload before you check to see if the improvement is real and significant. Because the laws of probability apply to loom stops, the improvement in stops may have been due to chance alone.

Here is how to check

In the study of the looms containing the warps with the old size, you checked over 200 loom hours (n) and observed 0.70 stops per loom hour (p). In the study of the looms with the warp with the new size, you checked 100 loom hours (n) and observed 0.50 stops per hour (p). Loom stops per hour dropped 0.20. The new size looks good so far.

Using formula (2) in each case, you get these answers:

Study 1 (old size)

p = 0.70, n = 200, p′ = 0.54 to 0.90

Study 2 (new size)

p = 0.50, n = 200, p′ = 0.33 to 0.76

If the range of true values (p′) of either study includes the average stops per loom hour of the other study, you cannot state that a significant change has occurred. In this case, the range of p′ for the old size does not include the average loom stops per hour (p) of the study on the new size, but the range of p′ for study No. 2, on the new size, does include the p of the study (No. 1) on the old size. On the basis of this information, it is impossible to state that the study represents a definite improvement, but further checks should be made.

In this case, had study No. 2 on the new size been made over 200 loom hours (n), and the stops per loom hour (p) was 0.50, the range of p′ for study No. 2 on the new size would have been 0.36 to 0.66. A definite, significant improvement would have been indicated.

As another case, suppose you made an 8-hr. study of 50 looms. The stops per loom hour studied [c in formula (3)] ranged from 0 to 15. The average stops per loom (c′) is 5.6 (total stops divided by 50). It is desired to know which of the 50 looms are "out of control."

$$c = c' \pm 3\sqrt{c'}$$

$$= 5.6 \pm 3\sqrt{5.6}$$

$$= 5.6 \pm 7.1$$

$$= 5.6 + 7.1 = 12.7 \text{ or } 13$$

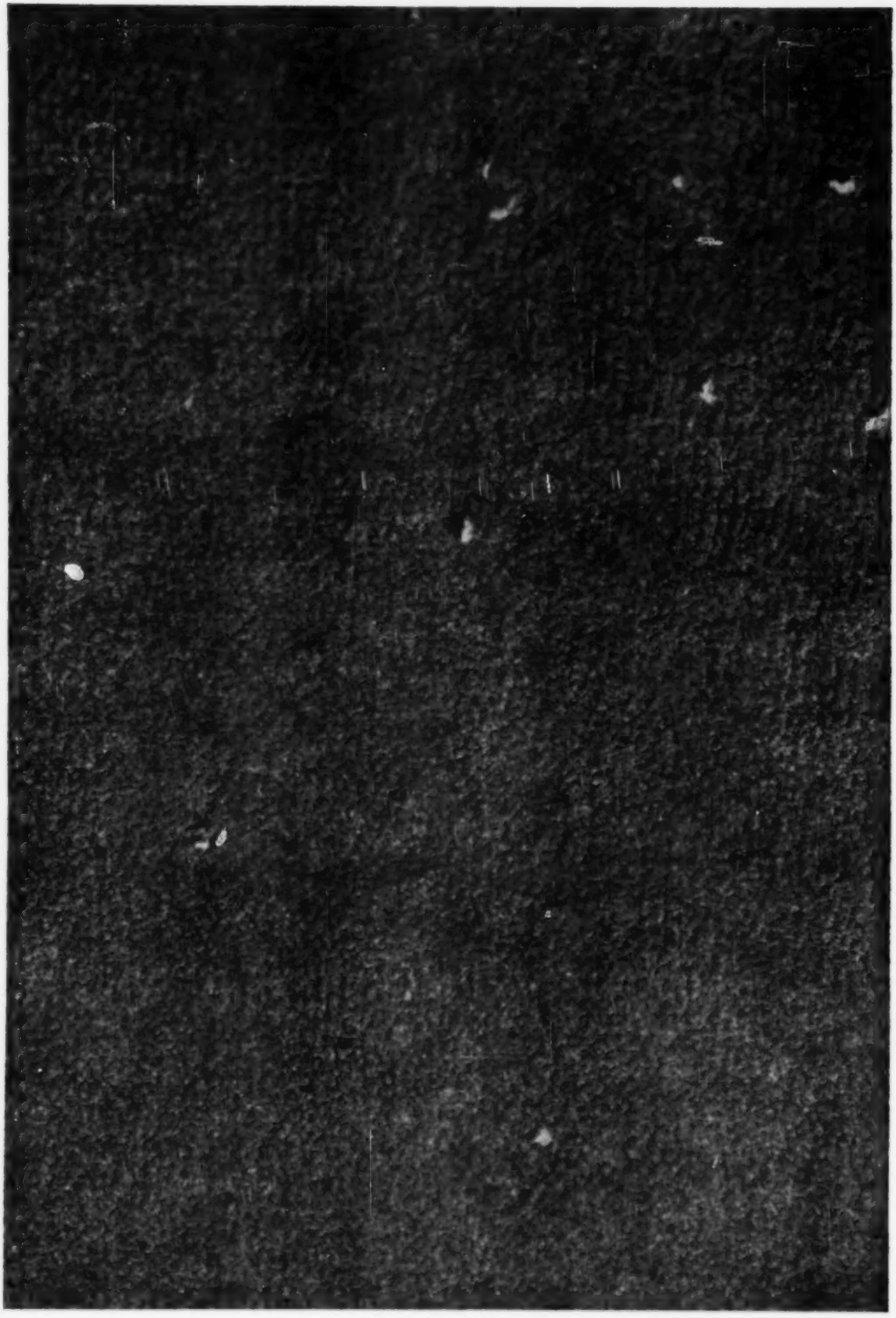
From the above, you see that all looms that had more than 13 stops are probably out of control, and a definite cause may be found for these looms stopping more than the average loom. These looms that show up as "out of control" should not be considered as belonging to the same group as the remaining looms in making a comparison with another study.

Who Says So?

In this article, the author makes certain statements about loom behavior and about determining the significance of rises or drops in loom stops that are not backed up in the text. Nor is the derivation of the formulas given.

Statements about the random of loom stops are based on lengthy studies made by the author in one of the most progressive mills in this country.

The formulas and statements about loom-stop significance are based on studies of the laws of probability with the application of the Poisson distribution (named after the French mathematician Poisson). Further information on the background of these formulas and statements can be obtained from textbooks on statistical methods.



We Check Our WOOL BLENDING With Ultraviolet Light . . .

By dyeing 1% of the fiber in a blend with fluorescent dye and using u.v. light, Nye-Wait engineers can—

- **Check results of a change in blending methods or in fiber components**
- **Make card-performance surveys**
- **Persuade department heads and machine operators that they could be doing a better job**

By CHARLES L. SHELTON
Chief Textile Engineer, Nye-Wait Co., Inc.

WE USE ULTRAVIOLET LIGHT to check on our blending all the way from the picker to the loom, with the result that we're now getting better blends. By use of the technique, which involves a tiny amount of fluorescent dye, we can check the uniformity of fiber distribution per unit volume in wool blending at different stages of manufacture. A secondary, but important, benefit has been obtained in showing machine operators that management has a way of checking the thoroughness of the blends, as well as evaluating certain phases of the quality of the work done by the different machines.

Our technique consists essentially of stock dyeing about 1% of a white-wool batch, or some one component, with a 1% dyeing of such a fluorescent dye as Calcomine Brilliant Flavine S, for example.

This dye is not strong enough to be discernible in the final yarn, when reasonably blended, and does not interfere with subsequent dyeing into different shades. The light shade of the yellow stock-dye merges easily with the natural yellow of wool and is not noticeable in the spun yarn before dyeing. By the use of a portable ultraviolet light ("black light") the blended batch can be examined statically prior to oiling and in motion at each subsequent operation.

. . . In Picking

In the picker-house bins, after blending, when the stock is viewed under u.v. light, large lumps of dyed stock stand out boldly. To obtain a "uniformity index" at this point, a cubic-yard box can be filled at random and a transparent ruled glass put on top. Under u.v. light a percentage of area can be obtained to represent "lump" distribution. Several readings will not only give a fair index of uniformity but will also provide a fair scale of "lump size."

After the blend is processed through the oiling picker into the card-room bin, some more cubic (sq. yd.) readings can be obtained, together with measurements on the decreased size of lumps of wool, with the fluorescent-dyed stock being used as an indicator.

. . . In Carding

By means of the portable u.v. lamp, the performance of the stock in the card-hopper bin and during the carding action can be watched. The roping that comes off the breaker card and the finisher card will show the degree of uniformity of fiber distribution and will also show up poor carding in the form of uncarded "pills." By means of a ruled glass, with a smaller container for the stock, readings can be made on the number of "pills" appearing under u.v. light.

. . . In Spinning

An examination of the filled bobbin from the mule after spinning gives the first criterion on the over-all levelness of the fiber distribution and quality of carding. The bobbin is a good check point because the filling wind employed on the mule bobbin shows a strand or two along the length of the bobbin for approximately every 6 ft. of yarn. Thus, the side of a giant-package bobbin will show relative fiber distribution, under u.v. light, for approximately 1,000 yd. of yarn and is representative of about 80,000 yd. on an 80-end card.

. . . In Weaving

Plying three or four ends of grease singles for the pile warp and weaving up a sample of carpet are the final steps in the preparation of the fibers for a comprehensive study of fiber distribution in the blend.

In weaving, because of the random in plying the singles yarn and in positioning the warp ends side by side, areas of the cross sections of fibers (cut pile) can be obtained that will be very representative of large quantities of stock. Under u.v. light, a microscope can be used to take a dyed-fiber count for a given area with a ruled glass. This technique presents an interesting optical effect wherein the cross sections of the individual dyed fibers will appear as the "milky way" with an occasional "pill" or two to represent some distant planet.

. . . In Evaluating Changes

This technique has been found excellent for studies in changes of blending procedure, changes in fiber components, card-performance surveys, and other operations where stock may be mishandled or any information desired.

. . . In Convincing Supervisors and Workers

This procedure is also most convincing to card-room personnel on the touchy subject of carding improvements. Defective carding due to poor settings and inadequate grinding are clearly shown. The use of fluorescent dyes on any component in a blend being studied clearly shows how much drops out from under the card and other machines. This method is helpful in studying the performance of waste in a virgin-wool blend.

In the plant, new interest in cooperation arises spontaneously in "old timers" who can actually see what the technical man is trying to do. Such convincing techniques can arouse considerable interest and cooperation. When we ran our first experiment some years ago, we were delighted to see the interest displayed by all operators as the stock passed through their machines under the u.v. light.

Personnel men may well regard this demonstration as a morale booster with respect to on-the-job education. The nice thing about it is that experiments can be carried on from batch to batch without interfering with regular production.

ULTRAVIOLET LIGHT used for this photograph shows large lumps of fiber that were not thoroughly carded out. The camera, of course, is not close enough to show clearly the good individual-fiber distribution.

WEAVING PRACTICES

▶ A digest of the weaving part of the fall meeting of the Alabama Textile Operating Executives.

▶ Read—in capsule form—what dozens of mills are thinking about such topics as metallized take-up rolls, shuttle care, rewound filling, and weave-room wastes.

HOMER ROBERTS of Anniston Mfg. Co., Anniston, Ala., took charge of the weaving part of the Auburn meeting.

METALLIZED TAKE-UP ROLLS

Give your experience with metallized take-up rolls. If you've had no experience with metallizing, what kind of covering do you use?

Mills that have tried metallizing seem to like it a lot. Here are some of the answers, condensed for quick reading.

"We have about 1,500 metallized rolls in operation, and they've been very satisfactory. Only two have required replacing in two years—one for slippage and one for rust coming through a nail hole."

* * *

"We have 100 looms with metallized rolls and are metallizing the others as quickly as we have trouble with them. We think the new method is cheaper but have no accurate cost figures on it."

* * *

"Our 200 looms with metallized rolls have been running for 6 mo. and we find them satisfactory in every respect. In addition to holding the cloth satisfactorily, metallizing eliminates the necessity of recovering the rolls."

* * *

"After 16 mo. on 11-oz. denim, our metallized rolls show no wear and still give good service."

* * *

"A metallized roll on corduroy has been on for over a year and shows no sign of wear."

* * *

"We think the type of fabric has to be considered. We got some slippage on heavy, tight fabrics on metallized rolls, so we haven't gone into it full scale."

* * *

Of course not all of the Alabama mills are using metallized take-up rolls. Some of the other methods include these.

"We use a metallic clothing, 1½-in. perforated medium fillet. The covering is applied at the loom."

"Our take-up rolls are covered with Texalox Carborundum. We glue it to the metal take-up rolls, pulled tight on the lathe, and tack at both ends. In a 5-yr. run we've found that we get 90% more life than we did from metal covering. Tension is held just as well if not better than before."

* * *

"Ordinary tin is used on most of our rolls, but we've got a few rolls covered with a rubberized material that seems to work well. The tin lasts indefinitely unless pulled loose."

* * *

"We use tin fillet and have had good results, but the tin we get now seems to break too much."

* * *

As far as the weight of goods goes, several mills reported that metallized rolls are working satisfactorily on 1.50- and 1.76-weight goods. One mill had to take out metallized rolls on 1.08 goods.

* * *

Does metallizing affect pick count? No, according to one mill that made extensive tests. Anyway, you could adjust the thickness, if necessary, they said.

One Alabama mill follows this procedure for metallizing—

1. **Remove fillet from take-up roll.**
2. **Check journal size and alignment.**
3. **Stop up all holes with wooden plugs. Saw off and file smooth.**
4. **Clean the roll with a portable sand-blasting machine. Use non-metallic grit No. C.**
5. **Handle roll with clean cloth. Don't let any dirt or even moisture from the hands touch the roll.**
6. **Put roll in lathe and set at 190 rpm. Set feed at 24 threads per inch. Use an E-2 spray gun with ⅛-in. Metcoloy No. 2. Make three passes over each roll.**
7. **Always use a clean cloth to handle the finished roll.**

Results with this method:

Towel-loom rolls, 23-in. long, require about 8 min. to apply three coats. Cleaning time is 10 min., and we use 1 lb. 5 oz. of Metcoloy. Total cost for cleaning and metallizing, including oxygen and acetylene but not overhead, is $2.15.

Larger rolls, 50 in. long, take about 17 min. application time and 20 min. cleaning time. These rolls use 2 lb. 4 oz. of Metcoloy and cost $3.75.

SHUTTLE CARE

What is the best method of installing and caring for shuttles? Do you have a shuttle man, or does the loomfixer do this work?

Only one mill reported that they had a shuttle man, and he was used only to bristle and fur the shuttles—not install them. Most mills have the loomfixer install and care for the

shuttles, with the second hand or overseer to check the work.

A frequently mentioned procedure is to have the loomfixer replace worn shuttles after the O. K. from the second hand. Then the loom is inspected by the second hand after the new shuttle has been installed.

Here are answers from the four mills that gave the most information on shuttle procedure.

1. "We have a card system of checking shuttles. First we check rocker shafts, crank arms, parallels, lugs, protection rods, frogs, brakes, etc. Then we square swords with the lay, square the reed, align the loom, put on new leather and pickers. All items are checked on the card, and the card is signed by the loomfixer."

"The second hand checks the loom and gives the order for a new shuttle. Each loomfixer has a certain number of shuttles assigned to him for upkeep and inspection."

2. "For putting in new shuttles, we have a regular shuttle-check form that the fixer uses to check about 20 items on the loom. All worn parts are replaced—especially leather. Loose parts are tightened, and settings are checked and corrected. The second hand checks the loom after the shuttle has been dressed, bristled, and installed."

"After check by the second hand, the loom number, date installed, and loomfixer's name are entered in the shuttle book."

3. "When the second hand writes an order for a new shuttle, he records the loom number in the shuttle book. After the fixer installs the shuttle, the head fixer checks the loom to see that it is in proper operating condition. Particular attention is paid to swords, reed, pickers, leather, protection motion, pick motion, and transfer motion."

"On the following day, the second hand checks the shuttle to see that it is running properly. We check our looms with 72-in., 18-in., and 12-in. straight-edges for proper alignment. The overseer spot-checks shuttles to see that the system is carried out properly."

4. "The loomfixer installs shuttles and checks these points for new shuttles:

a. squares reed to race plate
b. aligns boxes with reed
c. parallels picker to new shuttle
d. replaces worn pickers
e. decreases picking power
f. checks timing of picking motion
g. replaces worn binder and front plates
h. sets filling feeler to new shuttle
i. sets thread cutter, shuttle feeler, and transfer to new shuttle."

▶ **Robert Russell of Russell Mills and Chris Kennedy of Montgomery were unanimously elected to the Executive Committee of the Alabama Textile Operating Executives at their fall meeting held in Auburn, Ala.**

"The second hand makes a follow-up check for:

a. undue shuttle wear
b. easy picking
c. proper filling change
d. rapping of shuttle as it enters or leaves box
e. undue picker wear."

"We have a shuttle man who bores holes for bristles in all shuttles, maintains a supply of fur and glue, and recovers binders and front plates."

What is your schedule of inspecting shuttles? Who makes the inspection?

Most Alabama mills inspect shuttles weekly, and the fixer usually does it. In a couple of instances, the foreman checks shuttles monthly. In most cases the second hand checks looms at random to make sure that the fixer is keeping them in best running condition.

Summary

Here's a little note on shuttle life. How do yours compare?

"We get about 2,000 hr. per shuttle. That amounts to about three per loom per year. That's on X and X-2 looms with from 182 to 192 ppm. on 40- and 32-in. goods."

REWOUND FILLING

Have you increased weaving efficiency by using rewound filling?

The mills that have tried rewound filling seem to like it. No definite figures are available on increased weaving efficiency, but they all believe that the bunch is more uniform, the quill is firmer, and that it takes less time for filling batteries.

Have seconds been reduced?

One mill claims a 15 to 20% reduction in seconds. Another reduced seconds, but less than 1%. But all seem to agree that you have fewer broken picks, and mispicks, and that sloughing off is reduced.

▶ **A minute of silence for the late Earle Mauldin, Southern Editor, TEXTILE WORLD, was observed by the Alabama T. O. E. at their first meeting following his accidental death. A similar period of silence in Earle's honor was observed at the fall meeting of the Textile Operating Executives of Georgia.**

How much trouble do the knots cause?

A consistent "None" was the answer to this question.

Summary

One mill pretty well summed up the opinion on rewound filling as follows:

"The spoolers and quillers break the ends that would ordinarily break in the loom. A battery hand can also fill one-third more batteries on rewound filling."

Another comment was: "Savings depend on yarn count. On 13/1 filling, we think the quiller will pay for itself in two years. These savings come from more batteries per operator, less thread waste, better cloth, and cheaper inspection."

One superintendent said that he justified the cost of the quillers on his doffing saving alone. Now he can spin onto a warp bobbin and wind off onto a cone. Nobody at the meeting was winding directly from the spinning bobbin.

How many bobbins can be placed in a minute? One mill, whose savings with rewound filling were still being studied, claimed that the battery fillers were placing twelve bobbins a minute. The general feeling in the group was that this mill probably wouldn't see any increase due to rewound filling.

WASTE CONTROL

How do you control warp waste?

In answer to this question, most mills reported that control charts are kept for each type of warp waste. Some take it as far back as beaming, practically all to slashing.

One of the main keys to reduction of warp waste is proper running out at the loom. One mill shows any warp with more than two yards on it to the slasher man responsible, if a poor start-up at the slasher was the reason.

Warp tags are used by several mills. Every person who handles the warp puts his name or initials on the tag.

The use of tape at the slasher has helped a lot of Alabama mills reduce warp waste. Pressure-sensitive tape is used at both ends of the warp.

Here's how one mill keeps hard waste at the slasher down to 10 yd. per warp:

"After the set is loaded on the slasher, we put a lease string on the third beam from the slasher to hold the yarn in an even sheet for picking the lease. Then we start the slasher with size in the box, but with the immersion roll up. We start placing the lease string when the slasher is started. The slasher is stopped when the first

(Continued on page 220)

FOUR FOCAL POINTS

▶ **At Richmond Hosiery Mills, Rossville, Ga., special attention is always given these adjustments.**

THE BEST ADJUSTMENT FOR END CAMS shows a close clearance between the end cam and the stitch cam. A needle should barely pass between them.

TO ADJUST SINKERS, the cam should be set so that two sinkers will be in, with the third moving in, as the needle clears the inside sinker ring coming up after the stitch is formed.

1 End and Stitch Cams

End cams should be adjusted so that the same clearance occurs on the running side as on the backing side. If these cams are not properly set, an uneven stitch, open or short gore, or a loop out in heel and toe will result.

End cams are adjusted by making a close clearance between end cams and stitch cams so that the fabric and stitches will be uniform. This setting is gauged by testing with a needle so that the needle just passes between the end and stitch cams.

The two stitch cams on the B-5 Scott & Williams machine should be checked carefully for wear and replaced if found necessary since they are not adjustable. If more than one needle is drawn below the sinkers, then the cams should be replaced. The Banner and B-3 Scott & Williams machines have adjustable cams.

All stitch cams should be polished with fine emery cloth and not with the emery wheel. Better results are obtained. It has been found better to replace worn cams with new ones than to metallize old cams and reshape them.

2 Sinkers

Too much emphasis cannot be placed on proper adjustment of sinkers, for here is where adjustment plays an important part in quality knitting. Maladjustment can result in stretch in the gore, loop outs, drop stitches, and irregular fabric.

While checking the sinkers, you should recheck the cams. The cams should be adjusted so that two sinkers will be in the "in" position, with the third sinker moving in as the needle clears the inside sinker ring coming up after the stitch is formed. If the cam is adjusted too close, it will cut the fabric, the fabric will appear wavy and sleazy, gores will be open, and you may even have loose yarn floated in the fabric.

But if the cam is adjusted too open, the fabric will be tight, the gore will break under the strain, and the fabric will appear dull or dead.

for Quality Knitting

By E. DALTON WHITE, McGraw-Hill Atlanta Bureau

CORRECT METHOD OF HOLDING the drum pawl on the abrasive wheel is demonstrated by J. H. Dodd, night foreman at Richmond Hosiery. This procedure insures proper curvature at the point.

THE GLAND-GEAR FLANGE BUSHING can wear to the point where there is improper clutching. The clutch should be carefully inspected and adjusted so that notches are smooth and straight with little play.

3 Drum Pawl

One of the most important control parts of the knitting machine is the drum pawl. Its mechanical condition and accurate adjustment greatly affect efficient operation and quality knitting.

The drum pawl should be reshaped on a fine-grain abrasive wheel of a size that will give the original curvature at the drum-pawl point. This point should be smooth but blunt so that it will not cut into the pattern-wheel slot.

Fitted on the bracket, the drum pawl should be aligned so that the over-all distance from the point of the pawl to the center of the arm pin is 6¼ in. This alignment is the first step in properly setting the machine.

Should the drum pawl ever need replacing during production, it can be done quickly and accurately without throwing other parts out of adjustment.

4 Gland Gear

Another important moving part of the machine is the gland-gear flange bushing. This part should be checked carefully for any possible wear and side motion. If the bushing is worn, or if the screws holding it in place are broken, there will be some play. This condition is likely to result in a broken rocker arm, broken quarter gear, and improper movement on the pattern drum, as well as improper clutching.

Play in the gland gear is likely to result in broken needles and broken drum pawls. Very important is the fact that such play will produce bad laps in the yarn change.

As a precaution, it is considered best to carefully check the gland gear at least every 30 to 60 days. Any wobbly or uneven motion indicates further inspection is needed before serious trouble develops.

Improper clutching is due in many instances to a worn flange bushing in the gland gear. The lost motion prevents the drum pawl from kicking properly. Remedy is replacement of the bushing and adjustment of the drum pawl.

ASME Analyzes Mill Modernization

ASME Discusses Cotton OPENING AND PICKING Layouts

THE PROBLEM: Layout the opening and picking machinery for a cotton mill producing print cloth of 60% 30s warp, 40% 40s filling. Stock is 1-in. strict low middling. Mill has 50,000 spindles. Picker production required: 12,000 lb. per 8-hr. shift.

Here are the answers and the reasons for them—

THE SACO-LOWELL SOLUTION

By R. S. CURLEY, Saco-Lowell Shops

Regardless of the size or type of mill, the basic objectives of a good opening and picking setup must be kept in mind. They are: (1) proper blending of the cotton that is to be run, (2) good opening of the cotton, (3) maximum removal of seed, trash, and immature fiber with a minimum removal of spinnable fiber, (4) proper control of air pressure and humidity in the opening and picker rooms, and (5) presentation of the stock to the card room in a lap that is clean, well parallelized, and uniform in weight.

A print-cloth mill with 50,000 spindles using 40% 30s yarn for the warp and 60% 40s yarn for the filling would require an opening and picker room to handle 1,200 lb. of stock per hr. This requirement should be divided between two opening and picking systems with two pickers to each opening line. The picker production would then be 300 lb. per hr. per machine, and the opening line 600 lb. per hr. This arrangement would give excellent results in proper blending, cleaning, dusting, and humidification of the cotton. It would also have an added advantage in that different blends could be run simultaneously for warp and for filling.

For good blending, the ideal setup is five blending feeders delivering onto a feed table. Sufficient space should be provided behind the feeders to lay down five or six bales per feeder. Thus, the blend on the feed table is composed of a cross-section of 25 or 30 bales. Such a blend is ample to maintain an average density that allows the pickers to operate without unpredictable variations in the weight of the laps. Thoroughness in blending is becoming increasingly important as mills are becoming more and more aware of the economies that may be affected by using just the proper cotton mixes for the yarns that are being spun.

Proper opening of the cotton is important in the early stages of mill operation because of its effect upon the cleaning operations. In the later stages of operation, opening is important in that it affects the naps and bunches in the yarn. Good opening starts with the blending feeders and continues in conjunction with the cleaning operation through the opening and picker rooms. In our 50,000-spindle mill, the stock from each feed table would pass through a pipe, equipped with a permanent-magnet-type trap for tramp iron, to a vertical opener.

The vertical opener is an excellent cleaning machine, since many of the heavy impurities are thrown out through the adjustable grid bars while the lighter, spinnable fibers pass upward to the delivery end of the machine.

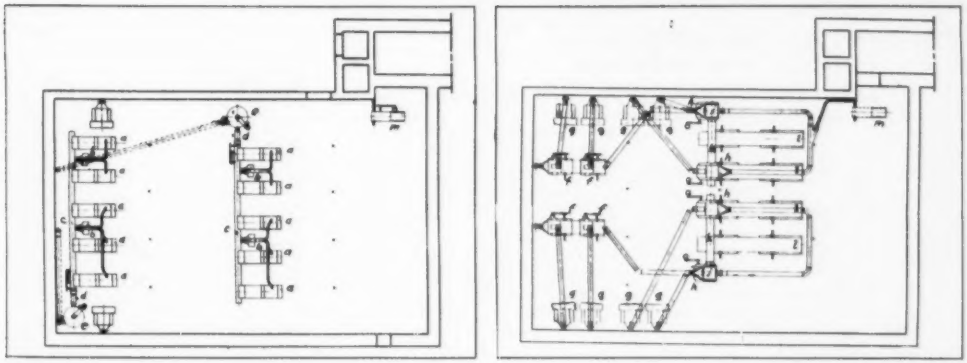
We recommend that the opening and cleaning line includes two No.-12 lattice openers equipped with No.-11 condensers following the vertical opener. The No.-12 opener, long known as an efficient remover of heavy impurities, has been modified in recent years to reach a new high in cleaning efficiency. This machine, which consists of a Buckley-type beater enclosed by grid bars for a substantial part of its circumference, handles the stock in loose form so that there is a minimum of fiber damage. The No.-11 condenser serves a dual purpose: (1) to condense the stock carried to it by air from the previous machine and to feed this stock to the following operation uniformly, and (2) to extract the fine impurities that are separated from the spinnable fiber by the air currents that carry them to the condenser screen.

R. S. CURLEY

N. M. MITCHELL, President, Barnes Textile Associates, opened the discussion with some brief remarks on why cotton mills need improved opening and cleaning equipment.

From the second lattice opener, the cotton is delivered through a No.-11 condenser to an overflow box placed at the end of a rake distributor for two pickers. In this overflow box is placed an electric control, so arranged that when the cotton in the box reaches a predetermined level, the feed on the preceding lattice opener shuts off. This in turn causes the feeders and feed table to shut down, and all flow of cotton from the opening room to the picker room stops.

From the overflow box, the cotton is drawn to a No.-11 condenser over a distributor. This distributor delivers to the control-feed chutes on the breaker sections of the 2-2B one-process pickers with blending reserve, No.-7 evener with fringe roll, universal grid bars, and calenders equipped with pneumatic rack control. The control feeds are equipped with electric controls that operate to start and stop the feed mechanism of the overflow reserve box. When both control feeds are full, the feed mechanism stops and the excess cotton in the condenser and on the distributor is delivered into the overflow reserve box. This arrangement prevents any



OPENING ROOM (left), **PICKER ROOM** (right). **a**— No.-7 feeders with motors and fans; **b**— No.-7 two-bag air filters; **c**— mixing feed tables; **d**— Eriez magnets; **e**— No.-2 vertical openers; **f**— No. 12-S lattice openers with No.-11 condenser feeds; **g**— No.-6 automatic air filters with No.-7 air filters; **h**— No.-11 condensers; **j**— No.-2 overflow reserve boxes; **k**— No.-2 automatic-control feeding systems; **l**— model-6 F-4 one-process pickers with No. 5 air filters; **m**— 24-in. F-5-S waste feeder.

rolling of the cotton on the distributor.

With the movement of stock by air through the opening room, the importance of having the right filters in the right place cannot be over-emphasized. In order to keep uniform air pressure and uniform humidity in the opening and picker rooms, the air that is taken from a room must be returned to that same room. In the layout shown in the accompanying mill plan, the feeders and vertical opener are located in the opening room, and the No.-12 lattice openers are located in the picker room. Air from the No.-7 feeders is exhausted into No.-7 two-bag filters in the same room. However, air from the No.-11 condenser over the first No.-12 lattice opener in the picker room must be returned to the opening room from which it was taken (through the vertical opener). Thus, the No.-6 filter through which the first No.-11 condenser is exhausted must be located in the opening room. Each No.-11 condenser must be exhausted into a No.-6 four-bag filter for best results.

The pickers are equipped with No.-5 automatic air filters that recirculate the air from the picker fans and keep the air supply in the picker room constant. This recirculation permits the use of a controlled humidifier system arranged to maintain the regain of 6½% to 7% necessary to obtain maximum cleaning as well as uniform weight of lap.

The first beater is preferably a two-blade beater running 1,150 rpm. This beater must be set at a minimum of 7/16 in. from the feed rolls following the control feed. This setting is required because of the heavy feed running slowly that is made possible by the use of the control feed. This heavy, slow feed results in a gentle action by the beater in drawing closely spaced steel rolls. The cleaning is increased by this action without breaking up any seed and leaf still in the cotton at this point. These broken seeds tend to join other seed coatings that eventually appear on the surface of the cloth.

The blending reserve, equipped with six-arm beater at 275 rpm., beats the cotton over a set of grids through which no air is drawn. The dirt chamber under this beater is open to the room through proper orifices, and the air pressure within is equal to that in the room. The droppings at this point consist of leaf, seed coatings, and material that is lighter than the cotton itself, yet the aggregate is often as great as is obtained from the finisher beater. This material is not removed where air intake through the bar takes place. Since the major role of the blending reserve is to maintain an even flow of cotton to the evener, this cleaning is an extra dividend obtained nowhere else in the picker line.

The cotton is delivered by the beater to the reserve chamber, at the bottom of which are two fluted rolls that feed to the evener. The cotton is thrown across the top of the column in the reserve and distributes itself in the direction of the axis of the picker. The rolls at the bottom draw it down onto the sheet that is fed to the evener. This method of feeding provides a thorough and controlled blending that improves the condition of the lap produced both as to evenness and fiber distribution.

The evener is the latest model equipped with a patented fringe roll. The nose of the pedal is shortened and a wire-wound roll is placed under it with sufficient clearance between the pedals and the evener roll to permit the passage of ordinary thick places that occasionally occur in any feed. The fringe roll is set toward the beater 7/32 in. from the face of the pedal. When the beater is properly set, the beater is ¼ in. from the pedal and 1/32 in. from the fringe roll. This roll is arranged with the teeth pointing upward on the side toward the beater, and it revolves in the direction of the feed at a 10 to 15% faster rate than the evener roll. The beater is set ¼ in. from the pedal, and the normal average thickness of feed is ¼ in. It will be evident on consideration that the beater strikes only the top fibers of the feed and that normally the bottom of the feed is untouched and passes along in the same condition of lumpiness that exists in the feed. However, the fibers are not as tightly compressed as they are in the feed due to the vibratory action of the beater. This fringe of fibers in their loosened condition is driven against the fringe roll, is held on the teeth thereof, and rotated into the path of the beater. In passing between the pins of the carding beater and the teeth of the fringe roll in this condition, all bunches of fibers are thoroughly separated without any possibility of damage and are cleaned over the grid bars. When these fibers are collected on the screens, there is little or no difference between the top and bottom of the lap. Without the fringe roll, every lap shows a smooth top and a rough or lumpy underside. Since the underside stretches in rolling up on the lap, there is constant danger of splitting. The lap from the fringe roll, being well filmed and without bunches on the underside, does not have this tendency to split.

There is no puffiness in the finished lap with the fringe roll as has been found previously when the cotton was

(Continued on page 254)

THE WHITIN SOLUTION

By PAUL C. GRANT, JR., Whitin Machine Works

When based on a machine operating 100% of the time, the average picker room is approximately 85% efficient because of time required for cleaning, adjusting, and doffing of the machines. Since 1,409 lb. of laps must be produced for each hour of elapsed time, it will be necessary for the pickers to have sufficient capacity to produce 1,409 lb. ÷ 85 × 100, or 1,657 lb. per hr. while in operation.

The opening room in turn must have from 3 to 5% greater capacity than the picker room so that the system will be balanced and so that the pickers will always be supplied with stock. Since 1,657 lb. per hr. of picker laps are required while the pickers are in operation, it will be necessary for the opening room to produce 1,657 ÷ 95 × 100 or 1,744 lb. per hr. while in operation.

The following proposed opening and picking organizations are, therefore, based on an opening-room production of 1,744 lb. per hr. and a picker-room production of 1,657 lb. per hr.

At the present time the processing of strict-low-middling cotton indicates the need for five or six beaters in the organization, depending on how close to grade the baled stock runs. To be on the safe side, we have called for a total of six beaters.

The accompanying plan shows the proposed layout for a tandem blending, opening, and cleaning line. While 1,744 lb. of stock per hour can be processed through a single opening line, a production of over 1,000 lb. per hr. per line does not lead to a quality product.

The two lines of opening machinery are identical, with the exception that a waste feeder has been added to one line for reworking white waste. The components in this line are as follows:

A. 5 Model-N3 blending feeders with variable-speed drives and magnetic traps
B. 1 24-in. waste feeder
C. 1 mixing feed table
D. 1 Spirawhirl cleaner
E. 3 high-speed cage sections
F. 2 24-in.-dia. Buckley downstroke cleaners

The stock from the two opening lines discharges into a common 14-in.-dia. pipe that exhausts to the overhead condenser in the picker room.

Three bales are laid down in back of each blending feeder. If stock is uniformly fed from these bales by the operator, a 30-bale blend is obtained. We find that an operator will feed the machines more uniformly from a small number of bales arranged to require less walking.

Cotton cannot be cleaned efficiently unless the baled stock is pulled apart into small tufts to expose the impurities. A seed, mote, or piece of stem or leaf cannot be removed from the center of a large mass of fiber. In order to pull the baled stock into small tufts, we recommend that the production of a blending feeder be kept between 150 to 200 lb. per hr. In this case the ten blending feeders in the systems will be required to produce at the rate of 175 lb. per hr.

BLENDING FEEDER. The Whitin Model-N2 blending feeder is driven with a variable-speed V-belt drive from the motor to the pin-apron stripper. The moving components of the machine have been synchronized at the most efficient relative speeds. This synchronization cannot be made relative to production. If the production needs to be increased or decreased, the hand wheel on the motor base is turned to increase or decrease the speed of the whole machine, or the pin cylinder is brought closer to or further away from the pin apron. The best setting for the machine is the closest setting possible of the pin cylinder to the pin apron to obtain the smallest tufts possible to be delivered at the required production.

PAUL C. GRANT, JR.

While a magnetic trap "hump" in the pipeline between the feed table and the first machine is effective, we feel, as the trap manufacturers and insurance companies do, that the most effective position for the trap is over the pin apron. With the trap in this position, only the high-speed pin cylinder will have a chance to strike fire from tramp metal in the stock, and the trap will act on the stock at a place where its flow is the smallest throughout the opening line.

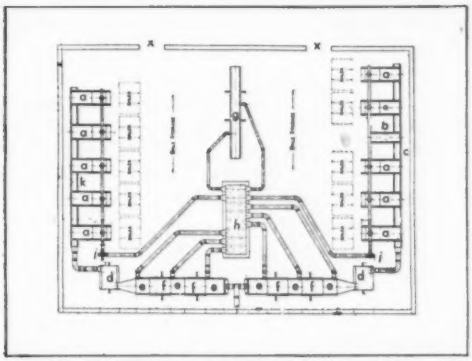
SPIRAWHIRL CLEANER. After cotton has been blended and opened by the blending feeders, it should next be processed through a pneumatic-type cleaner. By a pneumatic-type machine is meant a machine through which the stock is carried in an air stream. This type of machine should be used as the first cleaner in order to remove as many large pieces of unwanted trash as possible from the stock before this trash is broken into small pieces by the crushing action of a feed-roll type of machine.

CAGE SECTIONS. In this proposed organization we recommend the use of high-speed cage sections. These are floor mounted, and therefore the parts are easily accessible for maintenance without the use of a ladder. The cage section removes a high percentage of dust from the opened cotton, the speed of the cage being such that there are always numerous interstices of the cage not covered with stock through which dust-laden air is exhausted by the efficient aluminum-bladed fan. The stock is stripped from the cage by two stripping rolls, which also provide a suitable mechanical draft between the cage and the rolls. The rolls deliver the stock to the de-

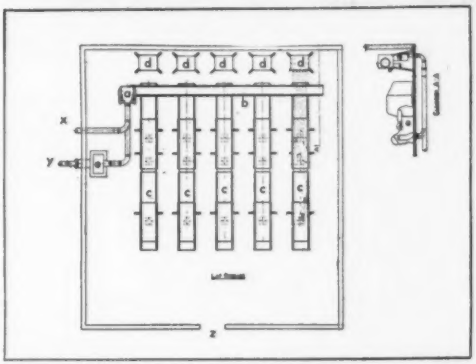
Whitin Predicts Radical Changes In Blending, Opening, Picking, Cleaning, Lapping

▶ **A prediction that the organization given in this paper may in the future be considered unwieldy, outmoded, and inefficient because of radical changes to come in opening and cleaning of cotton prefaced the delivery of this paper by the author.**

Mr. Grant said, "We as a machine manufacturer realize that the real scientific knowledge gained by research in the past few years in roving, spinning, and weaving has far outstripped the preparatory machinery and left it in an untenable position. Consequently, we are now engaged in a program of intense scientific research on blending, opening, cleaning, and lapping of cotton. Our research has disclosed some astounding facts; and while it is premature to disclose our findings, we feel that in the near future the whole concept of cleaning cotton will be radically changed. So far the research indicates that heavy, high-velocity beaters are not only unnecessary but are actually detrimental to quality processing. The study also indicates that the number of machines required to clean cotton can be reduced materially and that less damage to the fiber, and consequently, fewer potential neps will result. The scientific application of proven principles of aerodynamics and a limited use of air streams for conveying purposes both in the machines and pipelines will result in an improved lap of cleaner fibers with fewer potential neps to present to the cards."



OPENING ROOM (left). **a-** Model-N2 blending feeders with vari-speed drives and magnetic traps; **b-** 24-in. waste feeder; **c-** mixing feed table; **d-** Spirawhirl cleaner; **e-** high-speed cage sections; **f-** 24-in. Buckley downstroke cleaners; **g-** two-section roving-waste machine; **h-**aeroturn dust collector; **j-** No.-3 Sturtevant fans; **k-** mixing feed table; **x-** bales in.



PICKER ROOM (right): **a-** model C-2 overhead condensers; **b-** rake-head distributor; **c-** three-beater one-precess pickers; **d-** model C-1 return-air condenser; **e-** aeroturn dust collector; **x-** from opening room; **y-** return filtered air to opening room; **z-** to card room.

livery apron in a sheet form that shows no evidence of stringing or rolling the cotton.

High-speed condensers and dusters can be supplied instead of cage sections if a mill should prefer these units. The high-speed condenser and duster is mounted on the frame of the downstroke cleaner and cannected by duct work to the preceding machine. It is also a good duster, but has a tendency, especially when run at high speeds, to overwork the stock at the doffer. The parts are not as easily accessible for maintenance as on a cage section, and when mounted on the downstroke cleaner, the maintenance of the cleaner is not as easy as when fed by a cage section.

Better results are obtained when a cage section or high-speed condenser and duster is installed after each cleaning machine. As each cleaner liberates a certain amount of dust and fly from the stock, this dust and fly should be removed by a cage section as it leaves the cleaner. Cage sections are also necessary on each cleaner in order to maintain as low a velocity of the air and stock as possible through the cleaner to insure efficient cleaning. If a condenser is conveying stock from a cleaner some distance away or through several cleaners, the velocity of air in the cleaner will be so great that some of the dirt that should have been removed will be carried along with the stock.

DOWNSTROKE CLEANER. The 24-in.-dia. downstroke Buckley cleaner is an adaptation of the lattice opener of Platt Bros., as are all machines of this type built in this country. The original machine built by Platt Bros. in England was a combination draft-roll bale breaker and Buckley downstroke cleaner. Baled stock was fed by hand. From the cage section, an inclined-slat feed apron delivers the stock to a pair of feed rolls on the 24-in.-dia. Buckley downstroke cleaner that in turn presents the compressed sheet of stock to the beater. The feed rolls hold the stock while the beater plucks small tufts from it. As these small tufts strike against the grid bars, the trash is thrown between the bars and settles in the dirt chamber. We have tried to eliminate the feed rolls altogether and to drop the stock onto the high-velocity beater through a chute, but this innovation did not appear advantageous as the amount of waste taken out during these experiments decreased more than 25%.

We have recently changed the design of our grid-bar spacings and settings. We find that a broader triangular bar with wider spacing and with less adjustment for rake give much better results than the earlier design with regard to the percentage of droppings and the condition of stock leaving the machine.

ROVING-WASTE OPENER. Soft wastes are processed through a two-section roving-waste opener and then fed into the 24-in. waste feeder. The waste feeder is located between the blending feeders. When the waste feeder is in this position, a better blend of waste and cotton is obtained since the waste is delivered on top of a portion of the cotton blend and is then buried under the remainder of the cotton blend. A thorough mixing of the waste is obvious.

The opening-room layout also shows a Model B-18-16-72 Aeroturn dust collector. The machine is a self-cleaning bag-type filter and is so constructed that it may be placed out of doors if necessary. When placed out of doors, the filtered air may be returned to the room by means of duct work. The machine capacity depends upon the volume and number of bags. The model numbers designated in the layout indicate that 16 bags, 18 in. in diameter and 72 in. high, are required. This model will clean and return to the room 14,800 cu. ft. of air per min., which is the total amount of air exhausted by the opening-room fans.

PICKER-ROOM ORGANIZATION

The proposed picker room layout is shown in the accompanying diagram. The units comprising the layout are as follows:

A. 1 Model-C2 overhead condenser

B. 1 Rakehead return-type distributor

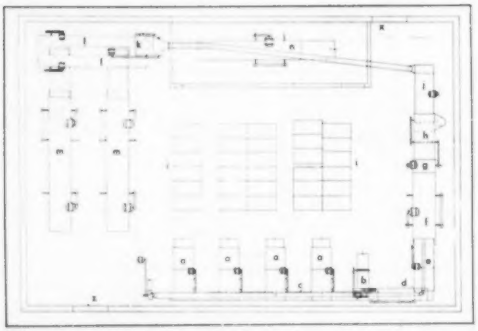
C. 5 two-beater one-process pickers with 18-in. two-blade and Kirschner beaters, and calender section.

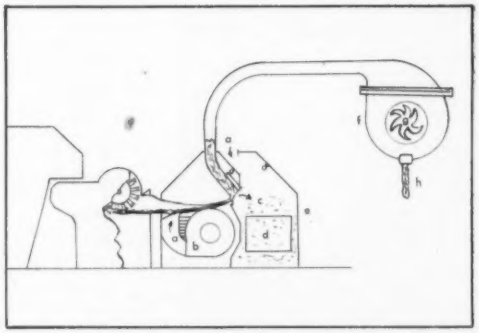
D. 5 Model-C1 return-air condensers

E. 1 Aeroturn dust collector, Model B18-2-72

MODEL-C2 OVERHEAD CONDENSER. The Model-C2 overhead condenser with self-contained fan will convey up to 2,000 lb. of cotton per hr. if the combination of distance and lift is not too great. We have assumed that in the proposed mill the opening and picker rooms are adjacent to each other and on the same level. If this were not true, we would recommend our larger capacity Model-E condenser with a separate fan. Mill conditions would be the governing factor. We feel that the damper cage and condenser roll on the conventional-type condenser are less apt to damage the stock, and at the same time these features give a better delivery of stock to the distributor. But if a mill prefers, the high-speed condenser and duster can be supplied in place of the conventional condenser.

(Continued on page 256)





OPENING AND PICKING ROOM (left). **a**—Lummus enclosed steel blending feeder; **b**—Lummus waste feeder; **c**—Aldrich feed table; **d**—Lummus gyrator elevator with magnet; **e**—Lummus enclosed steel mixing feeder; **f**—Aldrich 2 two-beater opener; **g**—Aldrich 3 opener; **h**—Lummus super-jet cleaner; **j**—Superior cleaner; **k**—Aldrich #1 condenser-self-contained fan; **l**—Lummus gyrator cleaning, blending & distributing machine; **m**—Aldrich 3-beater single process picker; **n**—W-3 two-beater waste machine; **p**—Lummus dust exhaust fan; **x**—bales in; **s**—to cards. **SUPER-JET CLEANER** (right). **a**—air; **b**—pressure fan; **c**—trash; **d**—clean-out door; **e**—super-jet cleaner; **f**—condenser; **g**—axial-flow fan; **h**—cotton discharge.

THE ALDRICH SOLUTION

By A. P. ALDRICH, JR., Aldrich Machine Works

Within the past 20 years, practically all pickers have been changed from the two- or three-process system to the single-process arrangement, and most mills have changed from the old short-draft roving and spinning frames to longer drafts, with fewer doublings.

These changes have completely revolutionized opening- and picking-room practices because they almost entirely eliminated blending in the processes beyond the pickers. At the same time, long-draft roving and spinning systems demanded more uniform laps than were previously required. In 1901, a coarse to medium carded-yarn mill had about 2,000 to 4,000 doublings in its processes. The same type mill today might have only six doublings between the picker hopper and the spinning frame.

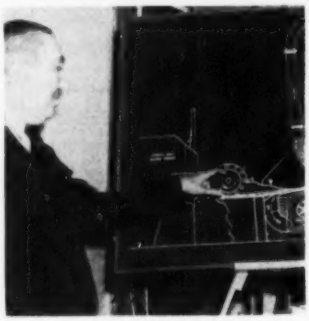
The elimination of all of this doubling and blending of the stock in the mill processes made it necessary to blend the cotton very thoroughly before delivering it to the picker, because a single-process picker does practically no blending. It is difficult to exaggerate the importance of thoroughly mixing a number of bales of cotton to get a good fiber-to-fiber blend. Any piece of card sliver an inch long should contain fibers from every bale on the floor in the opening room. This uniformity of fiber distribution is one of the most important factors in a smoothly running spinning room. Changes in the character of the cotton, which are beyond the control of the mill, have also accentuated the importance of good blending.

In a 30-bale mix of average middling cotton there will frequently be found a very considerable difference in the nature of the trash in the different bales. Some of these may have been ginned from hand-picked cotton, and some from snapped, sledded or machine-picked lint. The characteristic trash in these bales will vary with the method of harvesting and ginning. Some bales will contain a good deal of grass, and others little, if any. Some will contain hard bits of fractured cotton bolls or hard, woody particles. Some bales ginned from over-dried cotton will be very neppy and have a weak, brittle fiber. It might be impossible to run a mix composed entirely of one certain type of this cotton; whereas all of it thoroughly blended provides a stock that will run quite satisfactorily.

The machinery employed by all textile-machinery manufacturers for the opening, blending, and cleaning of cotton is basically similar; but differences in the arrangement and the sequence of conventional machines can make a tremendous difference in the quality of the finished picker lap.

The machinery layout shown in the accompanying diagram shows our basic opening, blending, cleaning, and picking arrangement for cotton. This arrangement shows the equipment required for feeding two single-process pickers; and for larger installations, this basic arrangement is merely expanded on the basis of providing approximately two blending feeders for each picker and one line of opening machinery for each two pickers. For feeding three pickers, we would provide six blending feeders and two lines of opening machinery. For four pickers, we would furnish eight blending feeders and two lines of opening and cleaning machines.

We are very much opposed to the overloading of opening machinery. The first essential in cleaning cotton is to get it well opened, so that the trash is loosened up and the lint is



A. P. ALDRICH, JR.

spread out over cleaning surfaces in a thin sheet. It is impossible to remove anything but surface dirt from large masses of cotton. The opening of cotton is a relatively cheap process, and we do not believe in skimping the machinery and pushing the stock through it so fast that it cannot be properly opened and cleaned.

Regardless of how many pickers in one group are to be fed, we emphasize the importance of feeding all of the opening lines with an automatic distributor receiving cotton from all of the bales laid out on the floor. This is the only way to get a satisfactory blend of all of the cotton in the mix. For example, in feeding a group of six pickers, we would recommend 12 blending feeders discharging upon a common feed table and delivering to a distributor, which would divide all of this cotton equally among three mixing feeders to supply three lines of opening machines. This setup results in having an identical mixture of cotton going through each of the three opening lines, which guarantees a much better final blend of the cotton than if these three opening lines were each fed with independent groups of

(Continued on page 257)

1951 COTTON To Be 70% Good, 30% Bad

Tensile strength is generally higher in the 1951 crop, but high temperatures in central Texas have cut staple length 1/16 in. and reduced fineness and maturity. Upper Delta and northern Mississippi cotton will show the effects of an early freeze. Good cotton will come from Rio Grande valley, costal plains of Texas, Louisiana, southern Mississippi, Southwest, and California.

By **JOSEPH M. LEAHY,** Research Director, Volkart Bros., Inc.

J. M. LEAHY

This 1951 cotton crop will probably be described for posterity with all of the superlative adjectives in the book, and with a few that will make Mr. Webster turn over in his grave.

The Rio Grande Valley started out this season with near normal conditions and produced some excellent cotton. The principal varieties grown in this area were Stoneville and Deltapine, and a lint was produced that averaged 1⅛ in. in very good grades. The fineness was normal, generally falling into the range designated as average. Tensile strength was slightly above normal and averaged close to 85,000 psi.

While the character of this valley cotton generally is good and spinners are pleased with the results they get, the limiting factor remains that it is not an area of extensive production. Few mills, if any, can afford to stock enough of this cotton for a season's requirements. Because it is the first cotton of the year, and the high grades have either disappeared or have been well worked over out of the preceding crop, the basis is usually too high to make stocking practical.

The cotton from the Coastal Plains area of Texas showed some of the effects of the excessively dry weather we experienced during the period of fiber development, but the crop was not damaged to the extent it was in the Blackland area of Central Texas.

This particular section and the entire Brazos River valley follows the Rio Grande valley and Coastal Plains area by almost three weeks, and it was in this critical time lapse that the crop practically burned up in Central Texas. Temperatures ran over 100° F. for 30 days, and the plants were under terrific stress for water. Volume production or yield was cut to less than half, and the cotton produced showed the tell-tale effect of drought. Most of the known varieties produced lint up to ⅞ in. shorter than was expected. Fiber strength increased, but fineness or weight per inch fell off due to lack of development of the inner walls. While this cotton will still produce yarns of considerable strength, the immaturity will certainly contribute its share in the form of appearance problems and dye trouble.

While the weather was generally misbehaving in Texas, it was exceptionally well behaved over in Louisiana and southern Mississippi. Conditions during the critical fiber-development stages were almost ideal. The first cotton picked in that area was very good from a standpoint of average fiber characteristics and has an excellent potential spinning value. Moisture was ample to insure cell-wall development, and staple lengths were good. More important was the improvement in the uniformity of fiber distribution in Louisiana cotton this year. This section did suffer from excessive heat during the first part of September, but the crop was 80% made at the time.

The northern section of Mississippi produced a crop that proved to have the highest tensile strength on record, exceeding the famous 1948 crop by as much as 5,000 psi. This strength is due to a slight stress for water during the critical development period. While the crop was shorter than expected, the fibers were stronger; and enough water was available to insure good cell-wall thickness. The cotton was better ginned this year. This section, you will recall, received much criticism for its over-ginned and over-dried cotton. Extensive educational programs throughout the Delta seem to have resulted in better handling of new ginning equipment and driers.

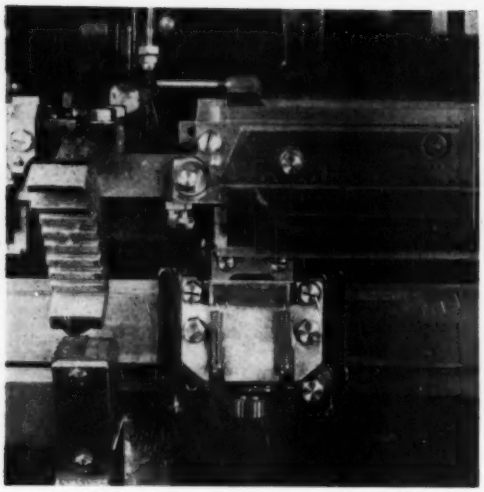
The upper section of the Mississippi Delta, which includes Arkansas, Tennessee, and Missouri, had one of the most favorable cotton-growing seasons on record. Everything pointed to high production of excellent quality lint. The predictions were correct up to a point; the whole Delta area had turned up with well-developed fiber, and tensile strengths ran from 5,000 to 10,000 lb. better than in previous years. Everything looked rosy until the weather suddenly decided to re-

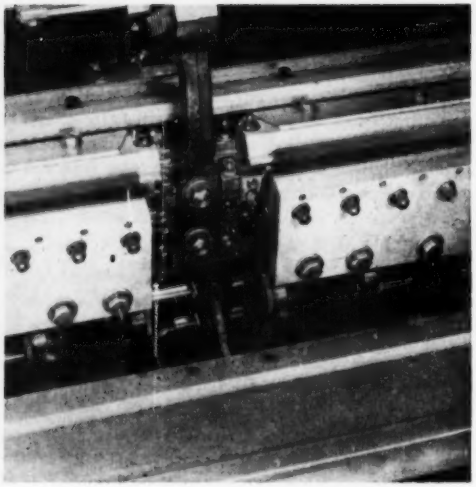
(Continued on page 252)

New ASME Textile-Section Officers Announced

New Chairman Fred Snyder (right) takes over the gavel from retiring chairman Dick Palmer.

▶ New officers of the Textile Section, ASME, for 1952 are: Chairman: Fred Snyder, Westinghouse Electric Corp. Vice-Chairman: Lindsay Dexter, Pepperell Mfg. Co. Secretary: Robert Jones, Saco-Lowell Shops. Treasurer: Leslie Runton, M. T. Stevens Corp.





THIS NEW SLUR-CAM BOX on the Karl Lieberknecht machine (left) is equipped with springs to obtain positive movement. Micro-adjustment needle bars on the Kalio machine (right) make needle-bar settings less sensitive to temperature changes. As shown here, the hinge stud is secured in the hinge lever with a full dog-point Allen setscrew. The adjustment nuts on the hinge stud must be adjusted for a free movement of the needle bar, without end play.

FULL-FASHIONED Machines Improved in 1951

▶1951 was a year of headaches to full-fashioned hosiery knitters. Overproduction, low prices, and heavy inventories made the year one of low profits for mills. One of the bright spots was the improvements manufacturers made on knitting machines. On the Kalio machine, these improvements include—

- **A new welt-turner motion**
- **Slur-cam box with springs**
- **Micro-adjustment needle bars**

By H. B. LeFEAUX, Consulting Editor, TEXTILE WORLD

NEW WELT TURNER ON KALIO MACHINE

(see opposite page for diagramatic details)——————→

The new welt turner and high-narrowing machine make it unnecessary to raise the narrowing machine for welt-turner operations. The raising mechanism and safety switches have been eliminated. Settings are different, and gauges have been changed; but gauging is done in the same manner with a height gauge and table gauges for narrowing rods and points. Shaft and spindle gauges are the same as they've been.

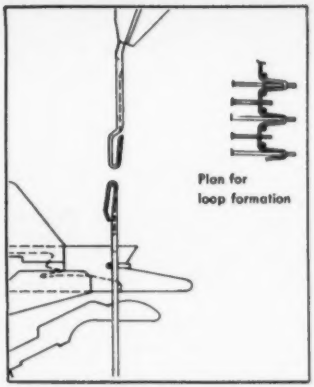
In the hook-up operation, the press-cam rollers and extra needle-bar rollers for the high needle-bar cam are not shifted. As heretofore, the back catch-bar rollers are shifted; but now it is also necessary to shift the knock-over rollers, which did not have to be done with the old welt turner.

A special press cam on each half of the machine must be engaged for the hooking-up operation. A pawl for racking each of the regulators must be disengaged to prevent the movement of the special hook-up cam from causing the regulators to rack. A segment is used to raise the disengaging mechanism during the one course in which the press hook-up cam is engaged.

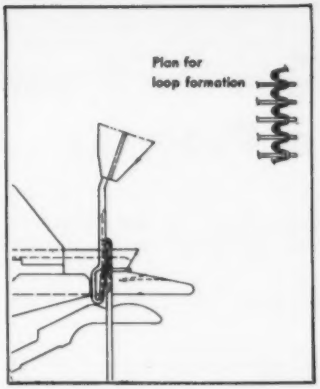
This new press unit eliminates the necessity for shifting the press rollers onto a welt-turner press cam, as was formerly done.

Welt bars are set with the welt-turner roller removed from the notch of the arresting cam. During gauging, the welt-turner camshaft should be turned forward $\frac{1}{16}$ in. To do this turning properly, the cam gauge should be used on the vertical-motion cam where the setting scribe is $\frac{1}{16}$ in. advanced beyond the gauge. With the cam remaining as set with the gauge, the entire camshaft is turned.

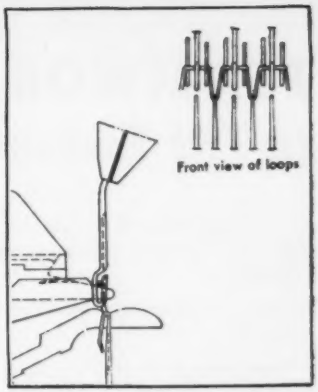
The welt turner is timed, as on the old-model turner, with the same cam gauges.



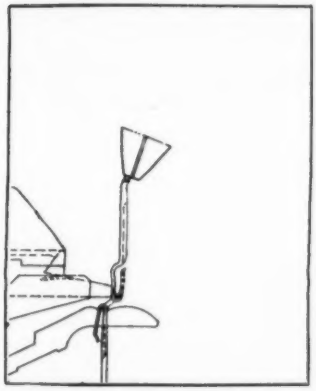
FIRST COURSE has been laid, with the yarn kinked around alternate needles by the sinkers. Welt hooks move down to engage alternate needles as dividers move forward to sink the rest of the loops.



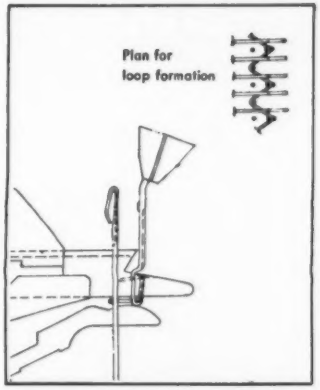
WELT HOOKS, against the presser, have closed the beard of the engaged needle. The loop is in the throat of the welt hook, ready to slide into it. The free needle has moved toward the presser edge but not against it.



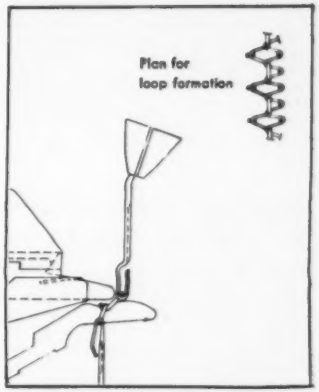
NEEDLES HAVE MOVED DOWN, and the loops are now under the beard of the free needle and over the noses of the sinkers and dividers but are confined by the sides of the welt hooks. Sinkers and dividers are back.



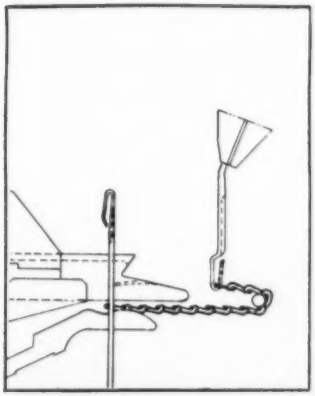
WELT HOOKS have moved away from the presser edge, causing the loops to slide off the noses of the dividers and down into the welt hooks, which take up the slack.



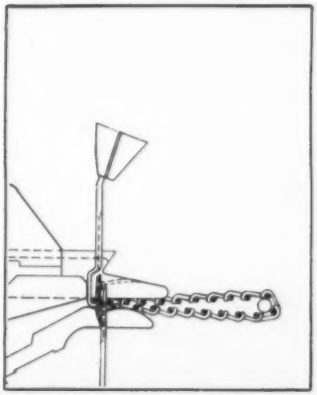
SINKERS AND DIVIDERS have moved forward as the needles moved up to high position. The needles are now beginning to knit the second course.



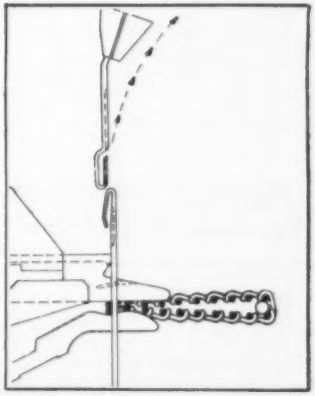
THE NEW COURSE has been laid. The needles have pulled new loops through the old loops. The loop formation can be seen clearly in the loop-formation plan given.



KNITTED FABRIC is drawn off by the welt hooks until the welt rods are laid in to complete the draw-off function. The welt hooks have moved upward, and the welt rods have drawn the fabric out and under the hooks.



DURING THE TOPPING-OFF stage, the welt hooks move down and against the presser edge as the needles start to move up. The loop on the needle is held under the needle beard, closed by the welt hook.



WELT HOOKS AND NEEDLES move up, with the welt hooks continuing on and up out of the knitting field. The sinkers and dividers, in their forward position, have stripped the fabric down on the stem of the needles.

TEAMWORK Is the Trend In TRI Technical Progress

- **Textile Research Institute annual meeting in New York hears that present high level of research progress depends on cooperation of all phases of the industry**
- **Postwar processes and techniques are starting to pay dividends at the mill level**
- **Latest steps in the unending search for improvement and simplification of techniques discussed**

HUNDREDS of textile technicians, scientists, and executives attended the recent annual meeting of Textile Research Institute, Princeton, N. J., in New York in November and heard papers on both research-project progress and mill applications of new techniques.

A seemingly revolutionary process for the chemical modification of viscose rayon was announced by Dan River Mills. Temporarily known as X-2, the new process alters the viscose molecule by means of ether linkage of individual molecules and thus stabilizes the fiber to within 2% dimensional change under all conditions, it is claimed.

Significant papers given at the meeting are summarized below.

COTTON-FINENESS Studies Pay Off at Mill Level

By WALTER REGNERY, Joanna Cotton Mills Co.

Blending of cotton by fineness determination is being done in the everyday mill operation at Joanna Cotton Mills Co. By setting up four fiber-fineness groups (ranging from less than 3.2 to more than 4.2 micrograms per inch) and then grouping individual bales of cotton (through results obtained on the Micronaire tester), the mill has been able to blend its cotton better and to obtain superior processing results.

Over-all conclusions on fiber fineness arrived at by the mill include: (1) the fineness of cotton strongly influences the spinning operation and the quality of yarn produced; (2) uniform fineness in a supply of cotton cannot be obtained by buying cotton of a single variety or from a single region; (3) by proper fineness measurement and blending on standard equipment, one can be sure that cotton being fed into the mill has the same average fineness from day to day; (4) with fineness controlled, variations in nep count at the card and in the finished product can be reduced; and (5) control of fineness permits the mill to operate its machinery continuously at optimum settings for the fineness grade decided on.

NEWER SYNTHETICS Engineered For Specific End-Uses

By G. K. LAKE, Pepperell Mfg. Co.

Pre-war objectives of imitating natural fibers have given way to current development to provide genuine functional improvement in fabrics.

Weavers and knitters must learn to think in terms of end use of the fabric and use the appropriate yarns either alone or in combination to achieve the desired results. Finishing of the new fabrics may call for new techniques combining the mass-production savings of the cotton system with the specialized operations of the silk and rayon finisher. The cutting-up trade may have to develop new methods, such as heat-setting of garments after manufacture, similar to the hosiery-manufacturing operation.

Machinery makers in turn must be ready to supply equipment to spin and weave the man-made fibers to meet the particular needs of those fibers instead of trying to adapt older types of machines only.

▶For a brief description of the new rayon-modification process described by Russell B. Newton, Dan River Mills president, see page 248 of the December, 1951, issue of TEXTILE WORLD.

Aging and Steam Beneficial for WOOL PROCESSING

By WERNER VON BERGEN, Fortsmann Woolen Co. and J. H. WAKELIN, TRI

Aging and steaming—used together or individually—make it possible for wools to be spun close to the spinning limit with higher efficiency. In some cases, use of aging and steaming enables the present spinning limit actually to be exceeded. And if improved aging and steaming techniques are developed, it may be possible to use coarse wools in making yarns of qualities now made with finer wools.

Other findings of the International Wool Research Project at TRI include:

1. The aging process is related to the relaxation of strains imposed on the fibers by previous processing.
2. The benefits of wool aging, under certain conditions, may also be obtained through steaming.
3. Aging the roving and the yarn at 70% r.h. and 70° F. increases the efficiency of spinning and weaving.
4. The fineness of the wool lot, regardless of its geographical source, is the dominant factor in controlling the ease, efficiency, and character of the resultant product.
5. The method of establishing the diameter of a wool lot by the core-boring technique has been confirmed as effective in predicting the shrink and fineness.
6. The effect of fineness is also evident in the hand and drape of finished fabrics. Finer wools give softer hand and a higher drape index.
7. The only influence of environment or geographical source of the

wool on its processing appeared in scouring.

8. The overscoured condition represented by the Australian fine wool apparently did not interfere with subsequent processing.

9. All four wools tested exhibited similar progressive changes through processing.

10. Yarns spun from medium wool were found after dyeing to give a darker shade than those spun from fine wool.

11. Single fibers withdrawn from steamed yarn show a marked decrease in ability to accept stain or dye.

12. The Wool Research Project has developed special techniques for determining the chemical properties of wool and the physical properties of single fibers, as well as such assemblies of fibers as top, roving, and yarn.

New Officers and Trustees of Textile Research Institute

1952 Officers

President—Andre' Blumenthal, Sidney Blumenthal & Co., Inc.

Vice President and Executive Committee Chairman } Percy S. Howe, Jr., American Thread Co.

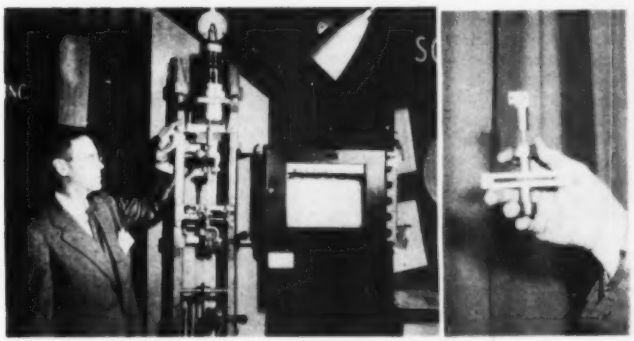
Treasurer—Donald H. Powers, Warner-Hudnut Co., Inc.

Secretary—Paul C. Alford, Jr., Textile Research Institute

TRI CONVENTION EXHIBITS

► Concurrent with the technical session on Thursday and the general session on Friday in the Penntop Room of the Hotel Statler in New York, the annual meeting of the Textile Research Institute included a dozen exhibits. These were located in the adjacent Penntop North Room.

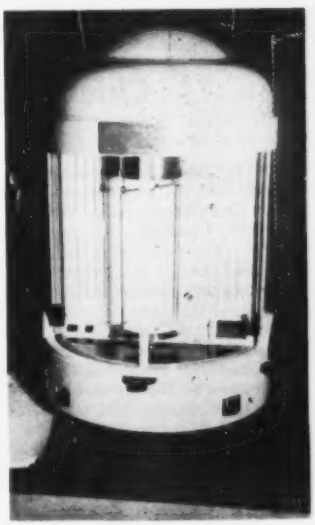
Descriptions of new textile-research tools shown at the meeting are given below.



A CONVERSION KIT to change over the pendulum-type Scott tester to a constant-rate-of-extension machine was pointed out by Robert W. Rogers, inventor of the "Dynameter" and chief engineer of Scott Testers, Inc., 95 Blackstone St., Providence 5, R. I. The new force-measuring unit (right) inside the cylindrical kit is a replaceable-element electronic strain gauge linked to a special Brown recording chart.

The electronic strain gauge acts upon an elastic element that allows a maximum weighing-clamp travel field of 0.0015 in. for a full-scale recording on the 10-in. travel chart. The minimum-scale capacity is 0 to 2 lb. A heavier elastic member is also provided for maintaining the standard maximum-spread ratio of 5 to 1 in the testing of heavier types of textile products in capacities up to 2,000 lb.

The constant-rate-of-extension tester is planned for sale at under $3,500.

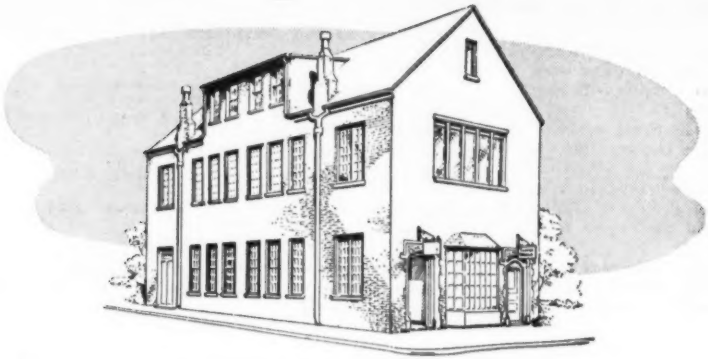


RAPID WEIGHINGS down to one-tenth of 1 milligram are possible on the Sartorius Selecta direct-reading analytical balance shown by C. A. Brinkman & Co., 263 Great Neck Road, Great Neck, L. I., New York. Automatic application of weights obtained through the manipulation of only two double knobs and quick arresting of beam allow varied weighings in 20 sec. after very little practice, it is claimed. Delivery of the balance is immediate; price is $895.

LOW-POWER STEREOSCOPE MICROSCOPE with built-in illumination was shown by R. Y. Ferner Co., Inc., 110 Pleasant St., Malden, Mass. Manufactured by Cooke, Troughton & Simms Ltd. of York, England, the portable unit has a magnification range of 6X to 9.5X. With graduated scales, a foot plate for the examination of strip material, and a 6-v. accumulator housed in a wooden carrying case (right), the set is priced in the U. S. at approximately $250.

► Three Sartorius yarn balances (small RoHi QW 200, medium RoHi QW 201, and large RoHi QW 100) were on display at the booth of C. A. Brinkman Co., Inc., 263 Great Neck Road, Great Neck, L. I., New York. Manufactured by Sartorius Werke A. G., Goettingen, Germany, the balances ranged in scales from 1 to 250 grams-per-sq.-meter direct reading to 800 to 1,250 grams-per-sq.-meter direct reading.

Turn page for additional items ➡



Textile World Opens Southern Office—
Chief Editor Thomas Now In Greenville

TEXTILE WORLD opened a combined editorial and business office in the Cunningham Bldg., 201 East Coffee St., Greenville, S. C., on Dec. 3, 1951. The publication has rented the second floor for this purpose.

Prentice M. Thomas, chief editor, a native of Alabama, a graduate of Southern schools, and a former overseer and assistant superintendent of Southern textile mills, will make his headquarters at the Greenville office. James H. Kennedy, field editor formerly located in Atlanta, will also be in Greenville. Recently added to the Greenville staff is Richard C. Pressley, former supervisor of training in the weaving department of Dunean Mills, Greenville.

The new coordination between TW's chief editor and the field men in the important Southern area will be a source of further editorial progress and consequent service to readers. Mill men are invited to call on the office, either in person, by phone, or by mail for any service that such a textile-information center might furnish. The Greenville editors will welcome frequent contact.

The Greenville staff will also include William G. Ashmore, district business manager.

William A. Newell, managing editor, and the balance of the present New York staff will remain in the New York office. Inquiries from readers may be addressed to either New York or Greenville office.

TRI Convention Exhibits

(Continued from previous page)

▶ A new variable-crosshead-speed accessory to its Models TT-C and TT-C1 tester was offered by Instron Engineering Corp., 2 Hancock St., Quincy, Mass. Installable at the factory during manufacture of the tester, the supplementary equipment consists of an accurately controlled variable-speed unit. This unit may be used to drive the reference selsyn in place of the regular synchronous motor. In conjunction with the regular change gears and shift lever, any desired crosshead speed may be obtained between the limits of 0.02 to 20 in. per min.

Speeds are adjusted from a calibrated dial. The accessory is listed at $834.50.

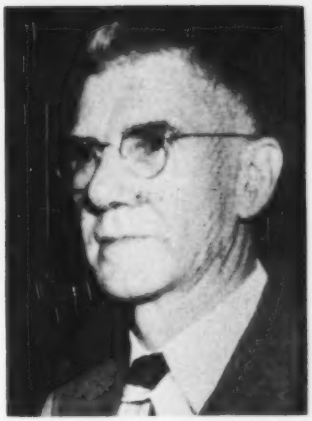
CONTINUOUS-FILAMENT yarns and cords (from 10 to 10,000 den.) can now be measured for evenness by the new Type-C Uster Tester being demonstrated by George Archer, representative of Uster Corp., 2516 Wilkinson Blvd., Charlotte, N. C.

The Type-C tester has six measuring slots that make up the denier range. Feed speeds range from 2 to 100 yd. per min. All ranges of irregularity can be measured continuously and simultaneously recorded (on the indicator and recorder at left) as percentages of "average" irregularities previously established.

Uster Corp. also featured its new automatic yarn-strength tester and recorder in breaking-strength-capacity ranges from 0 to 200 grams up to 0 to 2,000 grams. Three interchangeable elongation capacities are provided. A thousand tests per day are said to be possible with little attention.

What Alabama Men Are Thinking About SLASHING PROBLEMS

▸ In Auburn, Ala., the Textile Operating Executives of that state met recently for their fall meeting. The slashing portion of their discussions is summarized here for quick reading.



J. D. WHATLEY of Textron Southern, Cordova, Ala., led the slashing discussion.

HOMOGENIZED SIZE

Pickup

If you still use the same amount of starch, chances are that you'll get more pickup with homogenized size, according to the Alabama mill men. But when you find out what homogenizing pressure to use, and when you cut down on your starch by about 10%, your pickup will be the same as before.

All of these changes include the change from thin-boiling to pearl starch after installation of the homogenizer.

One man said that you get more good out of the starch when it is homogenized—not as much goes off as vapor, and what you have is more efficiently used.

If too much pressure is used on the homogenizer, you'll get a thinner size with less pickup.

To get the same size per linear yard of warp, one mill now uses 10% less starch. This is the reduction most often quoted.

Shedding

Three-quarters of the mills that reported on this subject said that shedding is noticeably less with homogenized size. The other mills said that shedding was about the same, but certainly no greater with homogenized size.

Penetration

You'll get as good penetration or maybe a little better, according to the response to this question. One mill says that you have to be careful of your pressures, or penetration will be too high and you won't get the protective coating that you need. But another mill man said that he thinks you get a better film and the work generally runs better with homogenized size.

A 25% reduction in shedding was reported by one mill, but it thinks that other improvements are partly responsible.

The old arguments about penetration and coating still linger around any slashing discussion. One mill, a believer in penetration, says that you can get better penetration and less coating with homogenized size. That's another good thing about the machines—they can be set to deliver whatever kind of size you want.

Weaving Efficiency

Up to 3½% increase in weaving efficiency was reported after the homogenizer was installed—but the mills don't credit the homogenizer entirely, if at all. In many cases this change in method of size preparation was made along with several other changes, and it's hard to separate the effect of each change.

Not one mill, however, is getting lower weaving efficiency than before homogenization.

Heat Exchanger

Considerable interest is being shown in the new type of homogenizer that uses a heat exchanger and starts off with cold slurry. The new system doesn't call for even a short cooking. By using cold slurry, some mills have found that they can clean out their mixing kettles much better and can use the mix as they need it—without worrying about a messy tank or not being able to use all of the mix. Not enough mills are using the new system, however, to really give a lot of information on the heat exchanger.

Summary

Alabama mill men like the idea of homogenization, and the method is giving them results at least as good as before, with these savings: less cooking, less steam, less cooking equipment (about ⅓ less), less maintenance of size equipment, and more uniform viscosity (and therefore more uniform coating).

No one in Alabama who has tried a homogenizer has discontinued the use of it.

The best pressure is 1,500 psi., according to most mills. All of the mills are running with the same weave-room humidity as before.

If you have some thin-boiling starch left over, you can homogenize it at 500 to 800 psi. and get a usable size.

One mill that sizes a range of yarn numbers from 10s to 40s uses the same size mix, same homogenizing pressure, for all yarns.

MULTIMOTOR DRIVES

Slasher Efficiency

Most Alabama mills that have installed multimotor drives have increased their slasher efficiency. One mill, which installed new fronts and larger cylinders at the same time, showed an over-all efficiency increase of 60%. Another mill claims that moisture controls are necessary to get the most out of a multimotor drive.

Increased Yardage

You'll get a more uniform beam with a multimotor drive, according to the comment on this subject. And many of the mills are putting from 5 to 7½% more yardage on each beam.

As one mill man put it, "The uniformity of the tension on the beam and the absolute control of the tension are the best features of this drive. You can put more yarn on the beam."

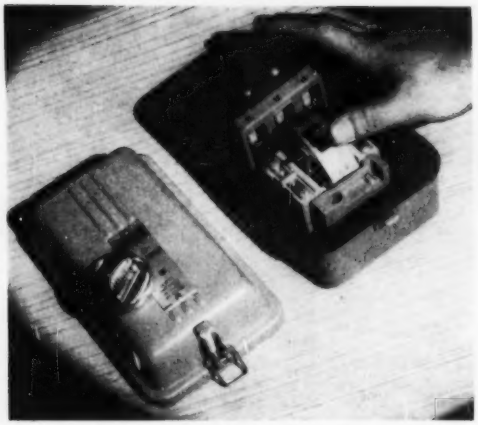
Another superintendent said, "We don't use as much weight on the press roll as with a friction drive. Tension is increased to give a more uniform layer of yarn."

Accurate tension control is also responsible for better-quality warps throughout the set. There's a much better chance of uniform warps now than before multimotor drives, according to the discussion.

Summary

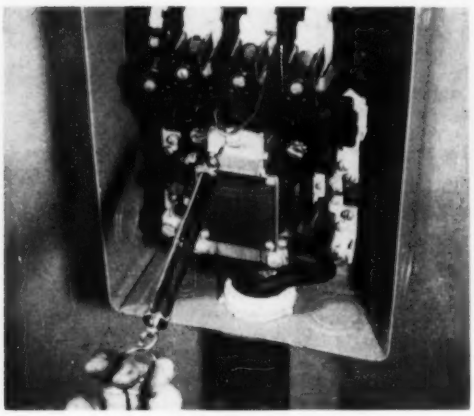
Both reduced slasher costs and better weaving efficiency were given as justifications for the expense of the

(Continued on page 224)

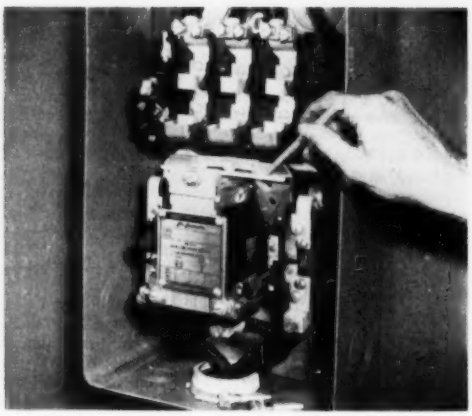


MOTOR STARTER is controller that benefits from proper maintenance.

MECHANICAL WEAR on contact surface calls for discard.



CONTACT-SPRING PRESSURE is measured this way.



KNIFE-EDGE BEARINGS are self cleaning, hence easier to maintain.

How to Maintain *ELECTRIC CONTROLLERS*

Mill Mobilization Manual

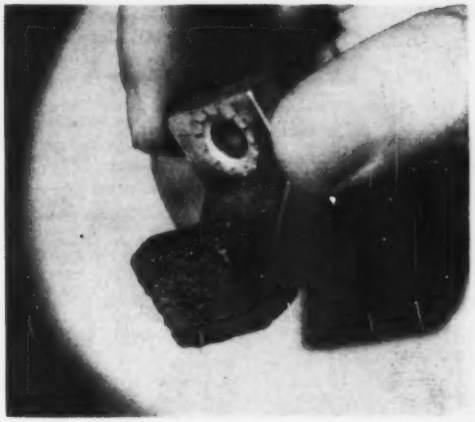
By L. E. MARKLE

Manager, Control Equipment Engineering, Westinghouse Electric Corp., Buffalo, N. Y.

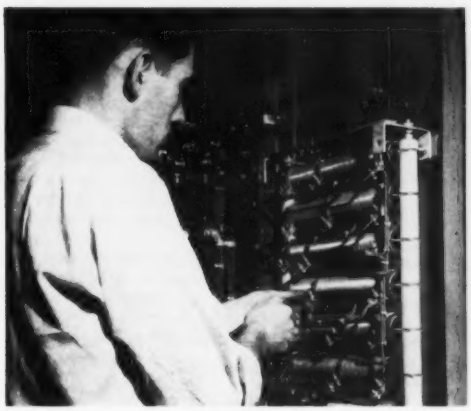
MAINTAINING YOUR electric-motor controllers prevents expensive repairs and costly equipment down time. For good maintenance, these considerations are important:

1. Safety to personnel. Safety is accomplished by enclosing, guarding, or remotely locating apparatus to avoid personal contact—and by disconnecting all

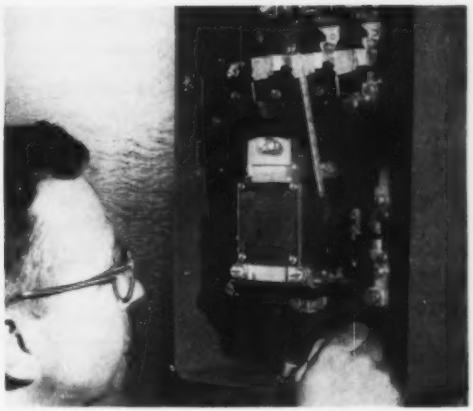
ELECTRICAL BURNING has worn away most of this contact surface. Discard.



EXCESSIVE CURRENT caused this burning. Enough silver remains, however, to permit reuse after careful filing.



CHECK RESISTOR TERMINALS periodically for tightness.



COIL TEMPERATURE should be measured regularly.

power before touching or repairing any apparatus.

2. Good initial installation. All parts should have ample capacity. Installation work and wiring connections should be well done. Tests should be made to prove the adequacy of the equipment and installation before final acceptance is granted.
3. Adequate renewal parts. Renewal parts should be obtained from the manufacturer of the original equipment to be sure that the parts are correctly made.
4. Regular inspection.

Preventive Maintenance

For good preventive maintenance:

1. Personnel should be capable and alert, trained, and prepared to make repairs when the need is first observed.
2. Regular inspections of equipment should be made, frequently enough to prevent serious trouble from developing.
3. If extensive repairs are required, inspector should report them immediately—and initiate plans for the work as soon as possible.
4. Records indicate which installations are most troublesome, what repairs most frequently needed. They minimize interruption of service when a major maintenance job must be done. And records show whether or not a mill's maintenance costs are excessive.

Any record that keeps the desired maintenance information in good order is satisfactory. It should be a convenient record, easily maintained. Maintenance personnel soon will know what type of record best suits their needs.

A suggested record form is shown on page 128. Since controllers and motors are closely associated, this record includes information on both.

Controller Enclosures

Enclosures protect personnel and controllers

Most controllers are mounted in some kind of metal enclosure. This may be done to protect personnel from live parts, or it may be desirable because of local conditions —→

Condensed from a forthcoming edition of the book CONTROLLERS FOR INDUSTRIAL MOTORS, by L. E. Markle and H. D. James, published by McGraw-Hill Book Co.

CONTROLLERS

No. ..... Location .....

Manufacturer ..... Class .....

Hp. ..... Voltage ..... Phase ..... Cycle .....

Style No. ..... Serial No. .....

Operating Coil Style No. .....

Transformer Style No. .....

Resistor Style No. .....

Style No. of Contacts { Stationary ..... / Moving .....

MOTOR

No. ..... Location .....

Manufacturer ..... Type .....

Hp. ..... Voltage ..... Phase ..... Cycle ..... Speed ..... Rpm. .....

Serial No. ..... Style No. ..... Frame No. .....

Style of Motor Bearings Front ..... Rear .....

Pulley Diameter ..... Face ..... Bore ..... Key Way .....

Style No. Brushes ..... Brushes ..... Per Set .....

CONTROLLER HISTORY

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MOTOR HISTORY

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SUGGESTED FORM for preventive maintenance of controllers. Motor data are important too.

The most common enclosure is a sheet-metal one that encloses all live parts. It may be ventilated or non-ventilated.

Dusty atmospheres

Where linty atmospheric conditions exist, dust-tight enclosures will reduce the maintenance on controller parts. These enclosures require gaskets and are made so that no dust or dirt can enter them.

Wet locations

Weather-resistant, drip-tight, watertight, and submersible-type enclosures are necessary where the corresponding service conditions are factors in maintenance requirements.

Clean Controllers Require Less Maintenance

Accumulations of dust and dirt should be removed regularly either by vacuum or by compressed air. (Excessive air pressures should be avoided because sharp, small particles may be driven into some insulating materials.) Special attention may be required to remove the metallic dust that collects and adheres to the magnetized parts of the controller. Dirt, oil, and moisture sometimes are most easily removed by wiping with cloths and suitable solvents.

Moisture due to condensation may collect within an enclosure. Drainage holes are sometimes acceptable to relieve this condition. Heaters often are used to prevent moisture from condensing. Such heaters are most essential when the controller is idle. When in operation, the coils and resistors within the enclosure will usually provide enough heat to prevent condensation.

Accessibility

For inspection and easy repair work, all parts should be made as accessible as possible. It should be possible to renew contacts, coils, springs, and other important parts quickly and with few tools. Installations should be arranged so that all units are accessible for maintenance work.

Contacts

Every time contacts open or close they are subject to mechanical wear and electrical burning. Contact parts, therefore, are items that may require considerable maintenance depending upon operating conditions. The mechanical wear of contacts that operate every second may be more serious than the electrical burning.

Contact surfaces

Contacts should be kept clean. This is especially true of copper contacts because the discoloration that soon appears on clean copper is not a good electrical conductor. It therefore increases the contact resistance and is often the cause of serious heating of contacts. When contacts are renewed, it is important to clean the new contact, if it is discolored, and the surface against which it is mounted.

The slight rubbing action and burning that occur during normal operation generally will keep the contact surfaces clean enough for good service. Contacts that seldom open or close, however, readily will accumulate the thin, discolored surface that may cause heating.

The dense discoloration that soon appears on clean silver is a relatively good electrical conductor. It is not so necessary, therefore, to keep silver contacts clean except for appearance.

Burned contacts

When contacts carrying excessive currents are closed or opened, or when contact motion is sluggish, the contact surfaces may be severely burned. If this burning causes deep pits or craters—or a very roughly burned surface—both the stationary and moving contacts should be renewed.

It is not essential or even desirable to have contact surfaces entirely smooth. Slightly roughened surfaces that appear during normal good operation, if clean, provide better contact area than smooth surfaces. Contacts with surfaces comparable to very coarse sandpaper may be considered in good condition.

Contacts that are dirty or excessively rough should be cleaned and smoothed with sandpaper. A fine file may be used, but be sure to maintain the true surfaces shape or contour of the original contact. The designer often spends much time and effort to determine the best contact shape. Changing the original shape by careless filing will leave high points or

edges that may overheat. Emery paper should not be used to clean contacts (it is an electrical conductor). Furthermore, some particles become imbedded in the contact surfaces and cause unnecessary wear.

Worn contacts and contact pressures

As contacts wear, the material in them gradually disappears because of both mechanical wear and electrical burning. During the wearing process the contact pressures decrease. This affects the current-carrying ability of the contacts and, if allowed to get too low, will cause overheating of the contacts. A small contact with suitable pressure will carry current with less heating than a large contact with little or no pressure. Reasonable provisions are made for the wearing of contacts when the original designs are made, but replacements eventually will be necessary. Manufacturers will furnish information on correct contact pressures for their devices. The contact pressures may be reduced either because of worn contacts or damaged contact springs. If contact springs have been overheated, they may be unable to provide sufficient contact pressure because the material has been weakened by overheating. Contact pressures should be checked and maintained within suitable limits. Always replace both moving and stationary contacts.

Loose contacts

Any loose electrical connection eventually will cause trouble. The bolts or fastening devices that hold contacts in place always should be tight. Normal expansion and contraction of metals due to temperature changes or excessive vibration will cause bolts or nuts to become loose. Frequent checking for loose contacts is advisable.

Oil-immersed contacts

The life of oil-immersed contacts is generally shorter than that of contacts operating in air. Frequent inspection of oil-immersed contacts is important.

Welding of contacts

Few contacts close without some bounce or rebound when they first come together. This is due to the reaction of the contact springs as they are compressed to provide the final contact pressure. When the contacts bounce, they may separate. At this time the contacts are carrying current and, even though the separation be very small, an arc is created. This arc may cause sharp projections of burned or roughened contact surfaces to overheat and may weld or "freeze" the contact surfaces together. Other causes of contact welding are excessive currents when contacts close or open, insufficient contact pressure, sluggish operation either when closing or opening, and momentary closure of contacts with little or no pressure applied.

Silver contacts will weld more readily than copper ones. Well designed contacts, properly applied, minimize this hazard.

In a Nutshell . . .

The following points are important for good maintenance:

1. **Do everything possible for the safety of personnel.**
2. **Test initial installation and prove satisfactory before acceptance.**
3. **Keep an adequate supply of correct renewal parts.**
4. **Have a systematic program of inspection and maintenance.**
5. **Choose enclosures according to operating conditions.**
6. **Keep controllers clean and dry.**
7. **Replace contacts that are worn very thin or badly burned and pitted. Replace contacts in pairs.**
8. **Maintain correct contact pressures.**
9. **Keep contacts clean. Do not change contact shape by rough filling or grinding.**
10. **Keep contacts and all connections tight.**
11. **Do not oil contactor or relay bearings, but keep these units clean and with no friction in the moving parts.**
12. **Operate coils at rated voltage. Both overvoltage and undervoltage conditions are undesirable.**
13. **Keep arc-rupturing parts in good conditions and in correct operating positions.**
14. **Replace frayed and worn shunts.**
15. **Keep all dashpots clean. Be sure oil dashpots have correct oil in them.**
16. **Correct the conditions that cause excessive temperatures. Measure the temperature if in doubt about overheating.**
17. **Be alert for undesirable grounds on all circuits, and eliminate them.**

Contactor And Relay Coils

Operating voltages

Shunt coils for ac. devices are designed to close them at 85% of rated voltage. Coils for dc. devices will close them at 80% of normal voltage. Any coil may be expected to withstand 110% of rated voltage without overheating.

Open-circuited coils

A coil with an open circuit will not operate the contactor or relay. The questionable coil should be replaced immediately by one that is known to be satisfactory. The questionable coil then can be checked for open circuits.

Short-circuited coils

If some turns of a coil become short-circuited, the resistance of the coil will be reduced, and more current then passes through the coil. The increased current will cause higher operating coil temperatures and frequently causes coil burnouts.

Overvoltage

Coils should be operated at rated voltage. Overvoltage on coils causes them to operate at a higher temperature that unnecessarily shortens coil life. Overvoltage also operates the contactor or relay with unnecessary force, causing more mechanical wear and bounce when closing.

Undervoltage

Undervoltage on coils causes contactors and relays to operate sluggishly. The contact tips may touch, but the coils may be unable completely to close the contacts against the contact spring pressure. Under these conditions, the contact pressure is below normal and the contacts may overheat and weld together.

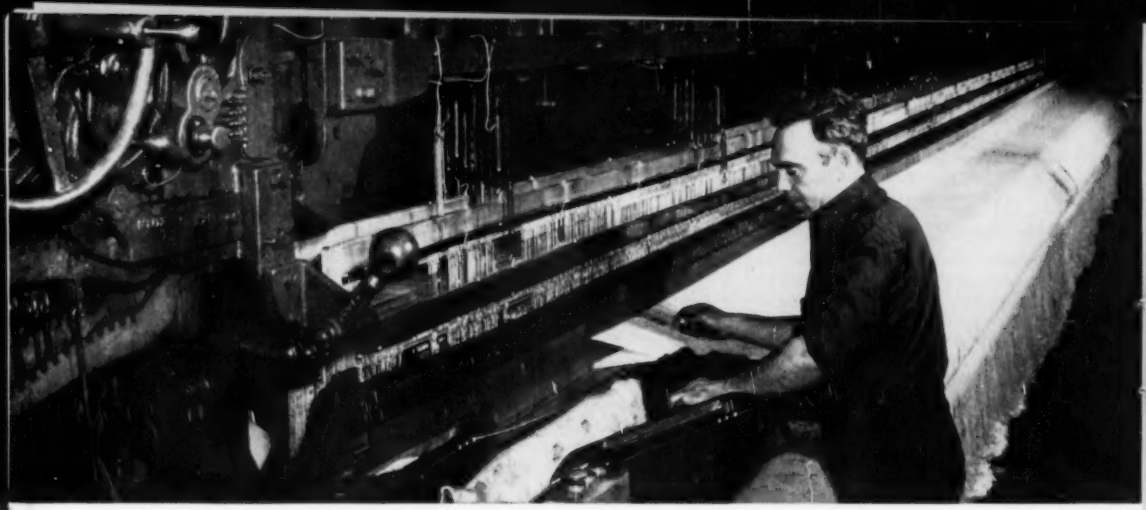
Closing and opening currents

Due to the magnetic air gap and the characteristics of ac. circuits, the coil current of an ac. contactor is much higher while the contactor is closing and the air gap is larger than after the contactor has closed and the air gap is zero. Since the closing time is short, ac. coils are designed to withstand the closed conditions. They soon will overheat if the unit is blocked, or if the voltage is too low to close it and the coil remains energized with the large air gap in the magnetic circuit. Freely operating parts will avoid such coil burnouts. D.c. coils are not subject to these conditions because the coil currents are constant at all times.

Arc-Rupturing Parts

When contacts are expected to

(*Continued on page 232*)



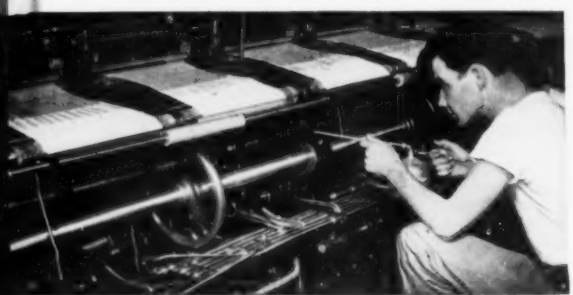
COMPLETE SCOURABILITY and the superior adhesiveness of Sunotex Machine Oil ended a jinx for this felt maker. Sunotex held spotting to the absolute minimum and replaced an "adhesive" oil which had to be applied three times as often. Sunotex Machine Oil is now used—with never a trace of harmful staining—on every loom in the mill, including this 500-incher.

LUBRICATION JINX IN 3 MILLS ENDED BY SUNOTEX MACHINE OIL

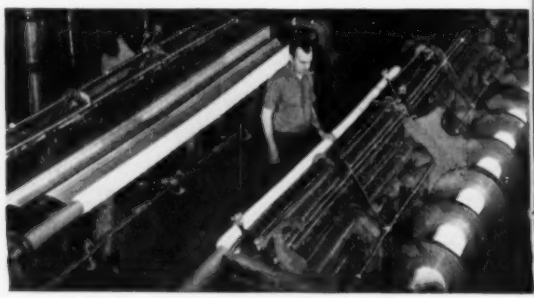
One mill had been plagued with excessive oil costs, another with numerous spots that would not scour out, a third with rusting. By switching to Sunotex Machine Oil, a new general-purpose textile oil for bearings, cams, slides and gears, each one of these mills ended its troubles.

Sunotex Machine Oil is an ideal lubricant for almost all friction points of textile equipment. It is exceptionally adhesive, scours out completely from all fabrics, assures absolute rust protection, withstands extreme pressures, simplifies inventories, makes possible longer undyed fabric storage.

To find out how many of your machines this oil can protect, write to Department TW-7 for lubrication data sheets and samples.



NO RUST forms to interfere with the delicately adjusted mechanisms of this hosiery machine now that Sunotex lubricates it. The mill's production of perfect nylons, greatly reduced by the oils formerly used, has returned to rated capacity.



50% LESS OIL is needed to lubricate this knitting machine because Sunotex adheres so much better. Unlike the former product, this Sun oil does not gum up the system. Costly week-end clean-ups have been eliminated.

SUN INDUSTRIAL PRODUCTS

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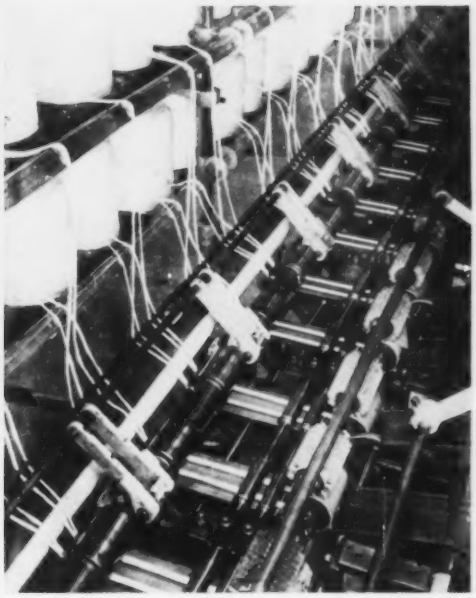
SUNOCO

THE PACIFIC CONVERTER is giving encouraging results, and interest in it is growing. However, some mills still prefer using cards until further Converter evaluation has been made.



THE CONTINENTAL SYSTEM has two roving processes. High speeds are said to make them economical. A porcupine drawing frame (above) with a draft of 10 is used for the second process.

Table 1

Process	American System	Modified Continental System	Continental System with Porcupines
1st	Pin drafters	Intersecting gills or pin drafters	Intersecting gills or pin drafters
2nd	Pin drafters	Intersecting gills or pin drafters	Intersecting gills or pin drafters
3rd	Pin drafters	Intersecting gills or pin drafters	Open gills
4th	Superrover	Open gills with flyer spindle	Superdraft porcupine drawing frames
5th	Ring spinning	Ring spinning	Ring spinning

THESE THREE SYSTEMS are the most commonly used for processing long-staple synthetics.

How Should LONG-STAPLE SYNTHETICS Be Processed?

► It's a hot question these days with increased interest in producing suitings of 5.5-den. fiber with staple lengths from 4 to 6 in. Here's a discussion of systems available and good and bad points of each.

By VICTOR SAXL, Vice President, Stellite American Corp.

INCREASING INTEREST in the processing of long-staple synthetic fibers is producing widespread discussion of what machinery should be used to obtain the best yarn for the desired end use. New long-staple-spinning techniques are evolving, and many

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mills are trying new machines and methods to spin with the shortest possible and least costly setup.

Not too long ago, the vast majority of synthetic staple processed was 2¼ in. or shorter and was spun on the cotton system. Only a small quantity of longer staple in coarse deniers or blends were spun on worsted or woolen systems.

But recently, especially since wool prices have soared, long-staple and coarse-denier synthetics have assumed increasing importance.

The synthetics from 4 to 6 in. in length or longer and from 3 to 5 den. and coarser have proved their worth. They are stronger and have a firmer hand, and cloth made from these fibers is especially suited for fancy men's goods or women's wear. The yarns have a worsted-like appearance. The fiber most widely used for clothing is 5.5 den., which corresponds to the fineness of 64s wool.

The trend has been accentuated by the demand for lighter-weight, less expensive, but well-styled and patterned suitings that have worsted-like characteristics.

The adding of some of the non-cellulosic fibers to viscose and acetate improves further the quality of the cloth and gives it some desirable qualities, such as fuller handle, strength, crease resistance, loft, etc.

The cotton system is not suitable for long-staple fibers because it is limited to fiber lengths up to 2¼ in.

Processing on the American system has been successful, and the yarn produced is satisfactory in many instances. However, even this system is subject to certain limitations in staple length. Mostly, fibers from 2 to 4 in. in length can be processed. Newer types of roving and spinning frames can also be used for longer staples, but the lack of positive fiber controls in the roving operation may produce slightly "fuzzy" yarn.

The Bradford worsted spinners are in a better position to process long-staple fibers because their machines are primarily built for them. But this system requires too many operations and lacks positive fiber control. Yarns produced on this system are not quite satisfactory, especially in finer deniers and high counts. In some cases, pin drafters used in conjunction with Bradford-type reducing and/or roving frames give good results on coarse and medium counts in coarser deniers.

The process employed by many Continental mills that have been working with long-staple synthetics for many years also deserves attention. These mills operate with Continental-type machines specially adapted for long staple. These European machines insure positive fiber control throughout the drawing operation. This drawing method produces high-quality yarn that is smooth and suitable even for the best kinds of cloth.

Table 2

Complete Processing Plan for Spinning of Long-Staple Synthetics of 30s Cotton Count (45s Worsted) According to the Modified Continental System

Process	Machines Required	Type	Gauge	Fallers	Heads
		Tow			
		Pacific converter			
1st	1	Intersecting gill box	22x17 3/4 in.	39	5
2nd	24 to 16	Wide rectilinear combs, 19 1/4 in.			
3rd	1	Intersecting gill box	22x17 3/4 in.	39	5
4th	1	Intersecting gill box with rubbing	19x10 1/2 in.	46	8
5th	1	Open gill box	20 1/2 in.		25
6th	4	Porcupine drawing frames with superdraft	17 3/4 in.		25
7th		Ring spinning frames			

THIS SETUP IS SUITABLE for a production of about 250 to 270 lb. of yarn, 30s cotton count (45s worsted count), per hr. It can be used for one end up in the spinning with drafts of about 12. By changing the drafts in the drawing and increasing the drafts on the ring spinning frame to 20 to 22, it can be used for two ends up.

Staple or Tow?

The question of whether to use staple or tow is being widely discussed, but no conclusive answer has been given as yet.

The introduction of the Pacific Converter and the production of improved-quality tow were great steps forward for those advocating the use of tow. Undoubtedly, the Pacific Converter is giving encouraging results in many cases, and the interest in this machine is growing.

But some mills favor using cards and believe that the processing is better when the staple is carded. It will be some time before the work of the Pacific Converter is fully evaluated so that it becomes clear which method is to be preferred for which stock and end use.

The Pacific Converter produces approximately 100 to 120 lb. of sliver per hr. It is fed by 1,500,000 to 2,000,000 total den. of synthetic tow.

For carding of staple, double or single worsted cards are used. Single worsted cards with breasts give very satisfactory results too, because carding of staple is easier than carding of wool. The settings should be made wider than for wool. Large cylinder and doffer diameters are recommended.

The production of a 60-in. worsted card is around 65 lb. per hr., depending upon the material processed. The waste in carding is around 4 to 5%.

Revolving-flat cotton cards are not suitable for long staple as they can be used only for fiber lengths up to 3 in.

To Comb or Not To Comb?

The question whether or not to comb long-staple synthetics is being widely discussed. There is no doubt that combing improves the quality of the stock and facilitates further operations.

In some cases, however, it may not be necessary. Satisfactory results can be achieved without combing, especially on yarns where high evenness is not required, such as various kinds of knitting yarns, yarns for some piece-dyed goods, etc.

However, for better types of yarns, combing is advisable and necessary.

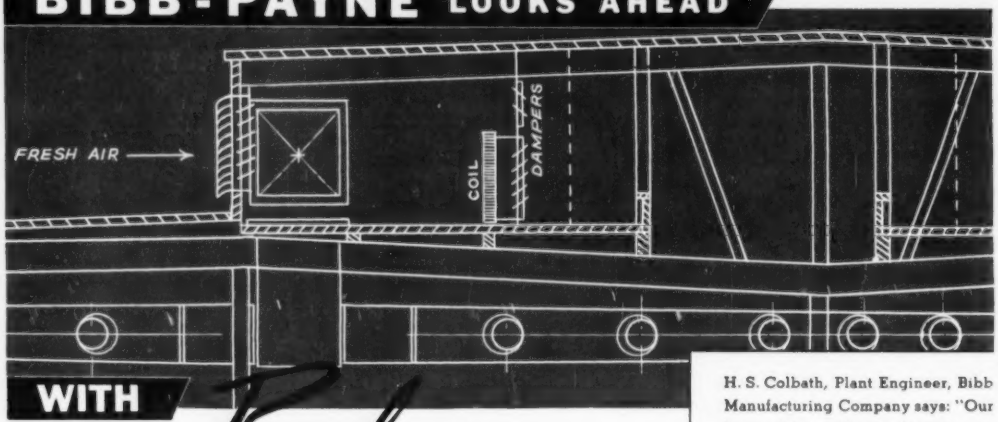
For the combing operation, the French or rectilinear comb is usually used because it does a better job of eliminating neps, shorter fibers, and other impurities. The French comb has closer pinning, and the combing action is more thorough than on any other type of comb. Tests have been made with 3-den., 4½-in. bright viscose staple where the difference in the nep count was at least 50% higher on Noble-combed top than it was on the French-combed top.

The advantages of combing are:

1. It eliminates neps and other impurities.
2. It eliminates short fibers.
3. It gives the material a more worsted-like character.
4. The yarn produced of combed

(Continued on page 237)

BIBB-PAYNE LOOKS AHEAD



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ENGINEERS AND MANUFACTURERS
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Report of Shuttle Put In

A new shuttle was put in

Loom ..... on ....., 19.....

I have checked the following:

1. ☐ Shuttle is boxed correctly
2. ☐ Loom is properly lined
3. ☐ Protector rods and bearings are not worn badly and they have no play or backlash
4. ☐ Protector-rod fingers are set correctly against binders, and daggers clear frogs by the proper amount
5. ☐ Frog rubber is in good condition and the dagger stop is set correctly
6. ☐ Shuttle feeler is set correctly
7. ☐ Loom is changing filling correctly, and the change parts are not badly worn
8. ☐ Pickers are parallel and in good shape
9. ☐ Binders and box leather are in good condition
10. ☐ Rocker-shaft bearings and bushings are not worn
11. ☐ Pitman arms are in good shape and eccentric pins are tight
12. ☐ Loom picks correctly and stroke on pickers is correct. Heel springs are good
13. ☐ Shuttle is not cut anywhere

Fixer .....

Date ..... Checked by .....

TED HAMPTON of Callaway Mills, La Grange, Ga., led the weaving discussion.

THIS SHUTTLE REPORT is being used by ⟵ one Georgia mill.

CURRENT WEAVING TOPICS

— As reported at the Fall meeting of the Textile Operating Executives of Georgia.

- **Lubrication**
- **Cleaning**
- **Maintenance**
- **Waste**
- **Humidity**
- **Pulled-in Selvages**
- **Knotter Upkeep**
- **Shuttles**
- **Feeler Tips**
- **Quill Breakage**

LOOM LUBRICATION

What method of oiling do you find best for a weave room?

Of the 20 mills that answered this question, 16 prefer the use of regular oilers while three have loomfixers do the oiling. One mill divides the oiling task between an oiler and a fixer. The oiler does everything possible while the loom is running, and the fixer lubricates the points that require the loom to be stopped.

Does the oiler use a pick to clean out oil holes?

All of the 19 mills that answered this question reported that a pick is used to clean out oil holes.

What type of lubricant is best for camshaft and crankshaft gears?

A little more than half of the mills that answered this question are using some kind of grease. Among the types mentioned were: cup grease, medium-weight grease, external-gear grease, asphalt-base grease, fluid grease, Artic No.-2 cup grease, Wofford Poco Clear Grease No. 2, 1330 Grease, Lubriplate, and Texaco H Grease No. 2.

Several mills are using heavy oils or non-fluid oils. Among the names mentioned were: Viscolite No. 2 Fluid, No. A-00000 Non-Fluid oil, Gulf Crown E oil, and a filled oil.

What type of lubricant do you find best for cam-shaft and crankshaft bearings?

More mills are using some type of oil than are using grease, but there was not enough of a difference to be worth noting.

Among the oils being used are: heavy loom oil, medium oil, Red Engine Oil No. 2, Gulf Crown E, filled oil, No. A-00000 Non-Fluid oil, Texaco Stazon B, and Standard Oil's Vacuoline Heavy Medium.

Greases mentioned for this application included: cup grease, Castroleum No. 1, high-pressure grease, fluid grease, Wofford Poco clear grease No. 2, No. E-00 grease, Palubco-00, and medium-weight grease.

What type of lubricant do you find best for harness cams and pick cams?

The mills split pretty evenly on this one between the various oils and greases.

Among the greases used are: Texaco H Grease No. 2, Sinclair No-Drip No. 12, high-pressure grease, cup grease, fluid grease, Penola cam grease No. 295, 1330 grease, external gear grease, and No. E-00 grease.

Oils mentioned included: medium-weight oil, Gulf Crown E, filled oil, Vacuoline heavy medium, and Non-Fluid oil.

Several mills use the same lubricant for all applications mentioned: camsaft and pick-shaft gears, camshaft and pick-shaft bearings, harness cams, and pick cams. The lubricants men-

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- **These same insulating materials are used to double the power per pound ratio in electric machines.**
- **Silastic,* the Dow Corning silicone rubber is used to seal hot air at 600°F., hot oil at 350-400°F., limit switches and bomb bay doors at −100°F.**
- **Dow Corning Silicone oils and greases make permanent lubrication a practical reality.**

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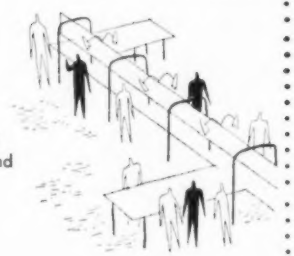

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tioned for this universal use by three mills are: fluid grease, Gulf Crown E oil, and a filled oil.

CLEANING CEILINGS

How often do you clean your ceilings in the weave room?

Most mills that have air-changing systems blow down once a week. A couple of superintendents claim that daily cleaning prevents large accumulation of lint and results in less dirt getting into the cloth. One mill finds that cleaning once every two weeks is sufficient.

For mills without air changing, the frequency of blowing down varied from daily to twice a week to once a week.

What method of ceiling cleaning do you use?

Here's the gist of the procedure used for this task.

1. Stop looms, or do while stopped.
2. Cover looms with paper or burlap. (Where this was not done, the lint and dirt was picked or blown off the loom and warp afterwards.)
3. Blow down or sweep the ceilings. (Most mills blow down.) Use a pipe extension 12 to 14 ft. long. For walls, posts, and pipes use a long-handled broom. For lights use a long-handled mop or a rag. Some mills use a screen to catch dirt from light fixtures and do this job separately while looms are running.
4. Uncover and start looms.

One mill uses a double-headed, long-handled cleaning tool—mop on one end, broom on the other.

RELATIVE HUMIDITY

What relative humidity do you maintain in the weave room?

The answers to this question varied from 70% to 90%, with an average of about 83%, regardless of whether the mill had air-changing equipment or not.

This question is another one of those that depends upon too many local conditions to get any meaningful results that could be applied elsewhere.

HANDLING WASTE

How do you handle battery-head waste and finger waste where quill-stripping machines are used?

Most mills have found it better to put all of this waste into the quill can. This at least keeps the waste off the floor.

When the quill can is emptied, the waste is either separated at the loom or in the quill pen before the quills are put through the stripping ma-

Sample Lubrication Schedules for 44-in. X-2 Looms

Oiling

	Parts	Lubricant	Day Oiled	Operator
Motor pinion	1	2	Monday	Oiler
Head gears	1	2	Monday	Oiler
Pick cams	2	2	Monday	Oiler
Filling cams	2	2	Monday	Oiler
Harness cams and treadle	8	2	Monday	Oiler
Whip-roll vibrator cam	1	2	Monday	Oiler
Clutch shipper stud	1	1	Tuesday	Oiler
Starting rods	6	1	Tuesday	Oiler
Filling-fork slide	1	1	Tuesday	Oiler
Shipper lever (front)	1	1	Tuesday	Oiler
Shuttle boxes	4	1	Tuesday	Oiler
Brake release lever	1	1	Tuesday	Oiler
Temples	5	1	Wednesday	Oiler
Battery parts	11	1	Wednesday	Oiler
Midget feeler	3	1	Wednesday	Oiler
Lay guide	1	1	Wednesday	Oiler
Shuttle feeler	1	1	Wednesday	Oiler
Whip rolls	2	1	Thursday	Oiler
Let-off parts	6	1	Thursday	Oiler
Let-off rod link	1	1	Thursday	Oiler
Beam-gear shaft and lever shaft	2	1	Thursday	Oiler
Beam bearings	2	1	Thursday	Oiler
Back shipper lever	1	1	Thursday	Oiler
Harness rolls	4	1	Friday	Oiler
Picker feet, parallel stand	4	1	Friday	Oiler
Friction collar	1	1	Friday	Oiler
Filling-cam follower	1	1	Friday	Oiler
Brake shoe	2	1	Friday	Oiler
Shipper-lever arm	1	1	Saturday	Oiler
Take-up gears	1	1	Saturday	Oiler
Take-up clutch	1	1	Saturday	Oiler
Cloth-roll crank	1	1	Saturday	Oiler
Train gears to sand roll	4	1	Saturday	Oiler
Sand roll	2	1	Saturday	Oiler
Brake-release parts	1	1	Saturday	Oiler
Sand-roll gears	1	1	Saturday	Oiler
Pick clock	1	4	Once/3 Weeks	Fixer
Thread cutter	1	1	As needed	Fixer
Selvage-harness levers	6	1	At warp out	Blow-off Man
Pick-clock shaft bracket	1	1	At warp out	Blow-off Man

Greasing

			WITH GREASE GUN	
	Fittings	Lubricant	Frequency	Operator
Crank shaft	5	3	Once/Week	Grease Man**
Friction clutch	4	3	Once/Week	Grease Man**
Pick balls	2	3	Once/Week	Grease Man**
Crank arms	4	3	Once/Week	Grease Man**
Cam-shaft bearing	2	3	Once/Week	Grease Man**
Take-up shaft (back bearing)	1	3	Once/Week	Grease Man**
Take-up shaft (front bearing)	1	3	Once/Week	Grease Man**
Take-up shaft (on front of loom)	1	3	Once/Week	Grease Man**
Pick-shaft front bearing	2	3	Once/Week	Grease Man**
Pick-shaft back bearing	2	3	Once/Week	Grease Man**
Protector-rod bearings	2	3	Once/Week	Grease Man**
Sand-roll bearings	2	3	Once/Week	Grease Man**
Rocker-shaft bearings	2	3	Once/Week	Grease Man**
Hub springs	2	3	Once/Week	Grease Man**
Shipper stud and link	2	3	Once/Week	Grease Man**
*Aux. shaft	2	3	At warp out	Blow-off Man
*Aux.-shaft intermediate-gear shaft	1	3	At warp out	Blow-off Man
Let-off mechanism	2	3	Once/6 Days	Grease Man
Warp-beam gear shaft	1	3	Once/6 Days	Grease Man
Int.-gear shaft (to sand roll)	1	3	Once/6 Days	Grease Man
Back take-up-gear housing	1	3	Once/6 Days	Grease Man
Shipper-lever end	1	3	Once/6 Days	Grease Man
Battery shaft	1	3	Once/6 Days	Grease Man
Other gears in sand-roll train	2	3	Once/6 Days	Grease Man
Filling stop motion	2	3	Once/6 Days	Grease Man
Cam-shaft bearing (center)	2	3	Once/6 Days	Grease Man
*Protector-rod bearing (center)	1	3	At warp out	Blow-off Man
			WITH BRUSH	
*Selvage harness cams	2	3	At warp out	Blow-off Man
*Aux.-gear teeth	3	3	At warp out	Blow-off Man
All other cams and gear teeth	11	3	Once/6 Days	Grease Man

*Unable to lubricate when warp is in.

**For looms with loom beam running time of less than 1½ weeks, all greasing is done by blow-off man.

Lubricant:
1. Sinclair No-drip #15
2. Sinclair No-drip #12
3. Wofford Poco Clear Grease #2
4. Veeder-Root Pick-Clock Oil

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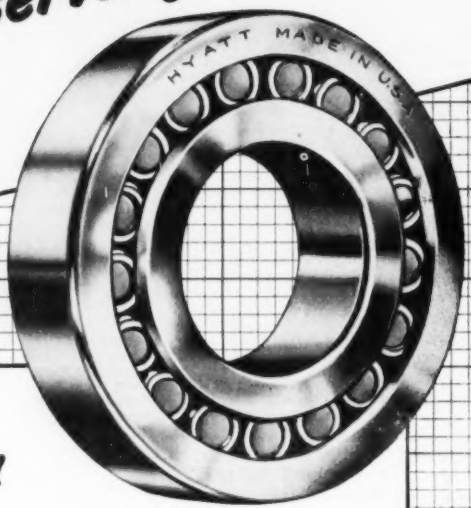

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HYATT ROLLER BEARINGS

chine. Separation of the waste before cleaning has been found to pay off in fewer broken quills and less tangling at the quill-cleaning machine.

LOOP SELVAGES

How are the synthetic materials such as nylon working out in replacement of wire in loop selvages?

The only place where the nylon wire is successful so far is on light fabrics. For heavy fabrics, wire is still used.

Is stationary wire used? How long does it last?

All of the mills reporting said that a stationary wire is used, sometimes extending 2 to 3 in. into the fell of the cloth. At one mill, the wire lasts 320 hr., but most mills report a life of from 4 to 8 hr.

PULLED-IN SELVAGES ON DUCK

Seven out of eight mills that answered this question reported trouble with pulled-in selvages when weaving duck.

Causes listed were: too much filling tension, wild yarn in the shuttle eye, bad shuttle eyes, filling out of the eye, filling catching on bristles, sloughing off, high bunch on the quill, and filling getting behind the bunch.

Remedies for the condition included: lighter bristles, setting the fell of the cloth accurately, and a special spring to hold the selvage ends tighter than the body of the warp so that changes in filling tension would not have such a noticeable effect.

FEELER TIPS

On rayon filament and spuns, and on other types of synthetic staples, what type of feeler tip is used most successfully?

Two out of three mills said that a smooth plastic or nylon tip was best. One mill preferred a Midget feeler with a spring tip.

SHUTTLE MAINTENANCE

Do you have a shuttle man, or does the loomfixer install and care for shuttles?

Of the two dozen mills reporting on this subject, all of them have the loomfixer install the shuttles and take care of them. In most cases the second hand checks the shuttle on installation and periodically afterwards.

One mill stamps the loom number and date on each shuttle as it is issued. Several mills use a card or tag to help the fixer and second hand check all the things that must be done when a new shuttle is put in the loom. These cards are usually signed by all concerned when the job is completed.

Some mills use a shuttle book to check on the number of shuttles that each loom uses and the most frequent causes of shuttle failure.

How often do you inspect shuttles, and who does it?

Most of the mills inspect shuttles weekly, but the range is from daily to monthly.

About half of the mills have the fixer inspect the shuttles, and the other half give the task to the second hand. A few mills have the foreman do it, and some have the head fixer responsible for inspection.

QUILL BREAKAGE

What quill breakage do you consider normal for automatic looms? What is your loom width and speed?

The number of running hours per week was not indicated by several mills, so the figures are difficult to compare. The best results showed 0.5 quills per loom per 120-hr. week. (60-in. Model-E looms going 125 ppm.) At the other end of the range was a mill using two quills per 120-hr. week on 48-in. Model X-2 looms running at 172 ppm.

LOOM MAINTENANCE RECORDS

Do you keep a "Supply and Repair Parts" control record on each loom to determine which looms are costing the most to maintain? If so, does this record help you to cut costs?

More mills are keeping such records

(*Continued on page 242*)

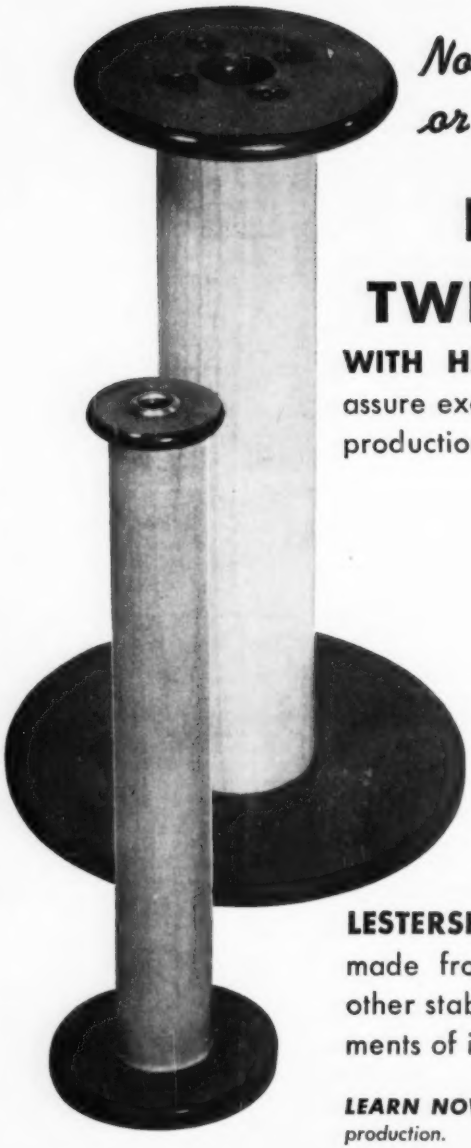
Fabric Construct'n	Yarn Numbers	Type Loom	Picks per Min.	Shuttle Eye	Bristles
22x11 to 30x18	6s/3 to 6s/11 warp 6s/3 to 8s/16 filling	Modified D, C&K	135 110	Cast iron	6 to 10 ½ top, ½ bot. 45° angle
36x26	6.75s/3 warp 7.25s/3 filling	XP, XU, Modified D	137	South'n 55	6 top 6 bottom *
40x40	6s warp 4.5s filling	42-in. Modified D	150	Brass	5 top 5 bottom
42x30	5.25s to 6s	120-in. XL	104	Least tens'n	1 top 1 bottom very fine
74x26	9.5s/1 warp 6s/1 filling	40-in. E	160	Draper No. 340	1 top 1 bottom 45° angle
No. 8 duck	10s/3 warp 12.5s/4 filling	44-in. Draper	144	Draper 64 brass eye	6 top 6 bottom
84x28	15s warp 9.5s filling	C&K W-2	130	Regular	2 top 2 bottom 40° angle
84x28	12.25s warp 14.5s/2 filling	54-in. X, 54-in. X2, 96-in. O	—	Cast iron	5 top 1 bottom

* Here's the detailed procedure that one Georgia mill follows in bristling shuttles.

"This is for an XP-loom shuttle carrying an 8¾-in. quill weaving 36x26 duck with 7.25s/3 filling. Such a setup calls for heavy bristling to keep the filling from kinking."

"We put 12 bristles in the shuttle, six on the top and six on the bottom. The first bristle is inserted 5/16 in. from the top of the shuttle, and at a 45° angle so it will come almost to the end of the quill. The second bristle is about ¼ in. from the top of the shuttle and ½ in. further back from the first bristle, but parallel to it. The third bristle is 3/16 in. from the top of the shuttle and ½ in. further back from the second bristle, and parallel to it. The next three bristles are 3/16 in. apart. All of the bristles are parallel and touch the quill at an angle of about 45°."

"On the bottom side of the shuttle, and on the opposite side, we put a row of six bristles in the same manner as detailed above. Here's why we do it this way. As the top bristles turn the filling loose, the bottom bristles hold the filling, as it is being unwound from the quill, until the top bristles take over again."



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THE TAPE ROLLS, positioned 36 to 60 in. apart on the roll-holding axle, feed tape off the rolls in a straight line. Tape is pressed firmly to the table surface by the roller. The tape backing is stripped off by hand, to expose the other adhesive side.

AFTER THE OPERATORS REPLACE the tape with the fabric roll and tab the fabric end to the tape, the carriage rollers press the fabric securely to the tape as the carriage is pushed along the table's length.

SCREEN-PRINTING Plant Cuts Laying Time by 96%

▶ Use of double-coated tape instead of pinning has cut fabric-laying time from 3 hr. to 8 min. The tape can be re-used for about 35 printing operations as well. Here are the details—

ADOPTION OF A NEW taping technique has reduced a 3-hr. job to 8 min. for an Eastern silk-screen-printing plant.

The job involved laying fabrics on a printing table for a silk-screen processing. Formerly, six men doing the job by hand took 30 min. to hand-pin the fabric for a total labor time of 3 man-hr.

Today, by using a special lay carriage and double-coated textile tape, two men lay the fabric to the table 96% faster—4 min. to lay two strips of tape and 4 min. to lay the fabric. The mill has obtained a 40% cost saving over the previous year's pinning costs of $99,800.

As an added bonus, the mill's engineers pointed out, a single tape application can be used for an average of 35 separate printing operations before it needs to be replaced. (This average is equivalent to 2,500 yd. of fabric—an average three-days' production per table.)

Other advantages experienced by the mill include:

The tape anchors well to felt and back gray, Permatex, or other coated-fabric table coverings.

Tape holds the fabric neatly. Scalloped edges that frequently appear when fabric is pinned are eliminated.

No clean-up time is required since no film deposit is left on the fabric such as is the case when wax is used. The absence of these deposits allows a brighter fabric to be marketed, and eliminates cleaning operations that often dulled the fabric's colors.

There are savings in screen-replacement and repair costs. Because nothing projects above the fabric surface, as in pinning, there is no chance of damaging the silk screens.

The taping method, proven by the Eastern firm in over a year's use, is designed to hold the fabric selvage edges securely to the printing table throughout the silk-screening process.

The "Scotch" brand double-coated tape used has a pressure-sensitive adhesive on both sides, with a paper liner on one side. When used on the mill's lay carriage, the tape and the fabric are applied in the following manner:

1. As the carriage is pushed along the 60- to 80-yd.-long table, two strips of 2-in. wide tape are fed off the rolls and pressed firmly to the table's surface. The tape's liner is stripped off the backing by hand to expose the other adhesive side of the tape.

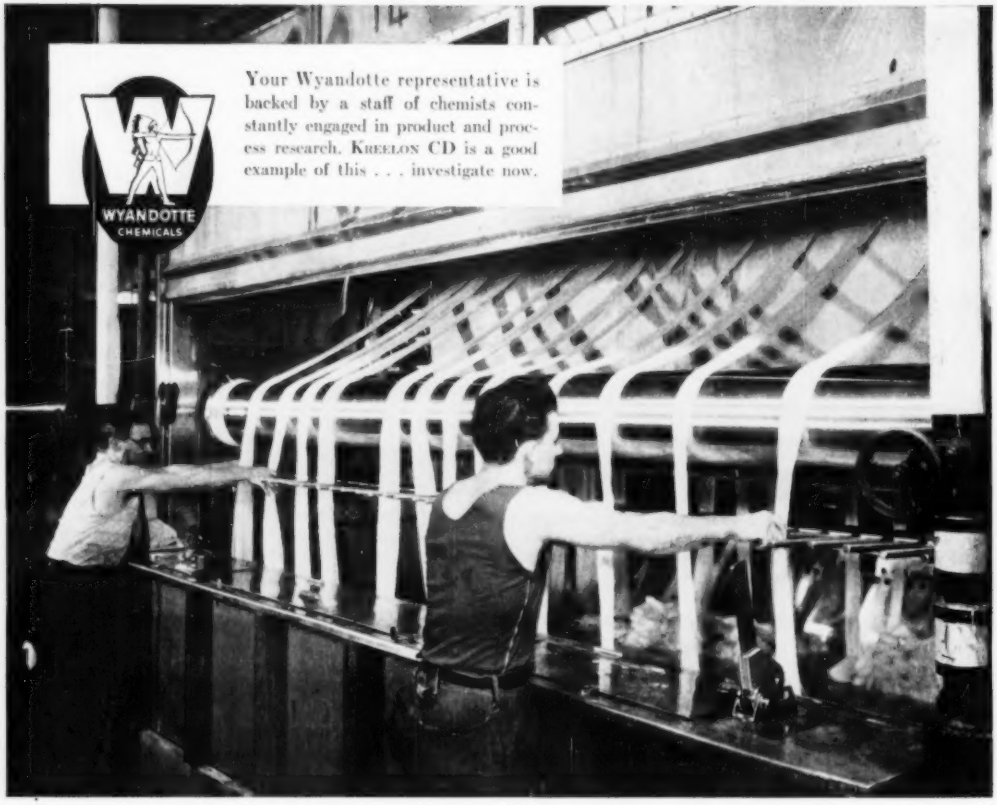
2. A roll of fabric is then placed on the carriage, and, once tabbed to the tape, the carriage roller presses the fabric securely in place as the carriage is pushed along the table's length.

There is no waiting for the adhesive to become tacky, or for it to set. Because the fabric sticks to the tape on contact, the silk-screen-printing operation can begin immediately.

When the printing step is completed, the fabric is merely pulled away from the tape, suspended from overhead drying frames, and the next layer applied to the pre-taped table surface.

Despite the present 96% savings in laying time, the mill is currently experimenting with a new lay carriage that is expected to cut the two-step laying operation to one.

The new unit is designed to lay the tape, peel back the liner, and lay the fabric—all in one operation.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KREELON CD...a new Wyandotte Product offering SUPERIOR DETERGENCY

The only product of its kind, Wyandotte KREELON CD is ideal for wet-processing cotton... It's *promoted!*

Test these facts for yourself—*see* how new KREELON* CD combines the advantages of a synthetic detergent *and a detergent-promoter.*

Discover the 20%-70% improvement in soil removal and whiteness retention you'll get when you substitute it for the alkylarylsulfonate detergent you are now using.

Contains a detergent-promoter

The improved performance that KREELON CD can bring you is due to its content of sodium CMC, a detergent-promoter.

In cotton processing, KREELON CD delivers superior results in scouring, kier boiling, dyeing, bleaching, desizing, finishing. Try it, too, for effective scouring, carbonizing, and dyeing of raw wool; and scouring, desizing, and bleaching of silks and synthetics.

Wyandotte KREELON CD saves you storage space, handling and mixing time. For improved performance in your wet-processing operations, call in a Wyandotte representative. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in Principal Cities.* *REG. U.S. PAT. OFF.

Wyandotte CHEMICALS

EVERY KNITTING MACHINE has a service card in the office at Richmond. This helps to determine which machines should have a style change and overhaul.

For Greater KNITTING PRODUCTION . . . *Combine Style Change With Overhaul*

▶ When your knitting machines are half disassembled for a style change, why not go all the way with a major overhaul to avoid cutting into production time later?

By E. DALTON WHITE, McGraw-Hill Atlanta Bureau

DOWN TIME AND LOSS of production to make needed repairs can prove very costly, especially when you are knitting a new style and want to take full advantage of selling interest.

That is the experience of Richmond Hosiery Mills, Rossville, Ga. And necessary procedures have been adopted to insure that once production starts it will keep going without interruption.

In general, a major style change means resetting the pattern and stripe drums and the cams, along with a few other adjustments. This work amounts to disassembling a large number of parts. It is next to an overhaul of the knitting machine.

On this basis, it is but natural that the best time to do a major inspection and overhaul is when a major style change takes place. That is Richmond Hosiery's opinion, and the procedure has worked out advantageously. Major style changes occur about every six months. General inspection, overhauling, and cleaning every six months keep the knitting machines in tiptop condition. Few adjustments and little maintenance needed between overhauls save valuable production time.

Each machine has its own service card on which is recorded the date of overhaul and parts repaired or replaced. This permanent record is very useful in determining just which machines to take out of production of one style and change over to a new one. Worn parts must be replaced some time, so why not do it when a style change is to take place? It requires but little additional time and effort to perform a major overhaul at this time.

During a major overhaul this is what Richmond Hosiery does:

1) Cylinder is checked for bad needle slots and bad walls.

2) Inside and outside sinker rings are inspected.

3) Cylinder is washed thoroughly with cleaning fluid and new needles and sinkers installed.

4) Picks are checked for wear or looseness of shaft or rivets. Replacement is made where necessary. This check includes refacing the picks, replacing the shaft or bushing, and replacing the pick spring if necessary.

5) Gears are inspected for wear and lost motion. Drive gears are given special attention. Replacement is made where necessary.

6) All shafting is inspected. If worn to the extent that there is too much play, replacement is made.

7) Rack wheels are inspected for bad notches. If they are in bad condition, they are reshaped. Drum pawl is inspected and reshaped if necessary.

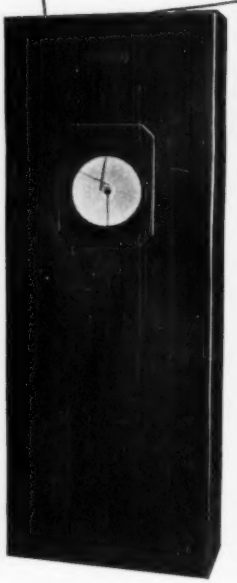
8) All worn bushings are replaced.

9) Spline gear is inspected and, if worn, a cast-iron ring is attached to take up the play. This prevents wobbling in the cylinder.

(Continued on page 242)

New Taylor
VISCOSITY RECORDER

catches changes in size viscosity... prevents improper slashing



FRONT VIEW

REAR VIEW

THIS new Taylor Size Viscosity Recorder will save you money by stopping improper slashing before it starts. It's a simple packaged unit that continuously records size viscosity directly in centipoise. Detects any variations before they can cause trouble. Tells your exact size viscosity at all times.

Precalibrated for immediate use. Writes a continuous, easy-reading chart record in direct viscosity units. No bother from intermittent readings or complicated conversion factors.

Easy to install and maintain because it comes to you in a packaged panel board unit. Can be quickly mounted anywhere near a size line. Only piping requirements are size 'in', size 'out', steam and drain. Valved for easy steaming out during cleaning. No clogging—no gumming of machinery—no delicate parts to cause trouble.

Available in a variety of ranges to accurately record every size viscosity in the textile industry. Your Taylor Field Engineer has complete details on this new Taylor Size Viscosity Recorder. Ask him! Taylor instrumentation has been cutting slashing costs since 1919. May we help you now? Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

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AATCC Intersectional Studies Highlight IMPROVED METHODS

SIX SECTIONS OF THE American Assn. of Textile Chemists & Colorists submitted intersectional-contest papers at the recent AATCC national convention in New York.

The winning paper, prepared by the New York Section this year, was an evaluation of three possible tests on the measurement of soiling of fabrics. The most significant parts of this paper appear below.

Digests of some of the other entries are given on succeeding pages.

Three Tests Available for FABRIC-SOILING Measurement

- **Blower, tumbler, and floor tests each have advantages**
- **Choice of test for various fabrics depends on several variable factors**
- **No universal evaluation test has been evolved for every type of soiling or fabric**

By New York Section, AATCC (First Prize)

BLOWER TEST for determining gross soiling differences among fabrics made of various fibers and constructions is partially successful, but it does not separate the effect of the many variables always involved in fabric manufacturing and finishing.

Three test methods were described and specified by the New York Section.

A blower test that causes impingement of soil from an airstream by interception and inertial effect. Results have shown that:

1. Test results are very sensitive to fabric construction. For this reason, the blower test probably cannot be used to evaluate soiling tendencies of fiber types. It may be adaptable on the other hand to the relative evaluation as a whole of flat fabrics that have appreciable air permeabilities.

2. Blower-test results are affected by treatments and finishes applied to flat fabrics. The results shown where "oil" bonding would be anticipated to cause increased soil retention are in agreement with results obtained with the other two test methods, and with expected results.

3. Results on tests made with constant volume and varying velocity are in agreement with the theory that impingement of airborne soil particles increases with air velocity.

4. With a fixed driving-force (power input to the blower), it was the air permeability of the test fabrics that determined the volume of air that went through the specimens. It was shown that a tighter fabric resisted the passage of air and produced less soiling.

5. For reasons stated above, the blower test may be useful as a tool to design flat fabrics with improved soiling resistance under certain service conditions.

2. **A tumbler test** that causes impingement of soil by deposition and transfer and probably also by direct interception. Tests results have shown that:

1. The tumbler test is less sensitive to differences in fabric construction than the blower test. Examples were obtained in the closer grouping of results on three woolen flat fabrics. Therefore, the tumbler test may be useful for evaluating soiling tendencies of fiber types.

2. The tumbler test is sensitive to the effects of treatments and finishes. Treatments of an oily nature produced increased soil retention as expected of "oil" bonding.

3. Tests made involved the use of a simple synthetic soil, subject to analysis by reflectance and by titration to give absolute pickup. Retention tests on untreated flat fabrics showed satisfactory lack of selective absorption. This result agrees with those of tests made at the Philadelphia Quartermaster Laboratories and indicates the suitability of simple soils in contrast to complex mixtures that have been made to simulate "natural" soils.

3. **A floor test** that produces impingement principally by deposition and transfer. Results have shown that:

1. Test-result differences exist among specimens of similar construction made with various types of pile fibers.

2. Results expected of "oil" bonding as a factor in soil retention were obtained.

3. Since the floor test is in reality

Mechanics of Soil Impingement

1. **Diffusion of very small particles from air**
2. **Deposition of medium and large particles from air**
3. **Direct transfer of particles from a soiled surface**
4. **Interception of particles in an air stream**
5. **Inertial-effect contact with particles in a moving air stream**
6. **Electrostatic attraction either from air or from another surface**

► **Unless it can be proved that the degree of fabric soiling is independent of soil-particle size, a single soil-test method is not justified. The mechanisms of soiling are not yet sufficiently well established in all their details to permit of such a single-test method.**

The tumbler test may prove to be the nearest possible approach to a universal method of soiling evaluation, but its results do not agree in all cases with those of the blower test.

Many conclusions can be drawn by the student who wishes to further examine the data. For instance, tumbler and floor tests showed viscose fabrics to soil more than any of the other fibers. Acetate fabrics also showed considerable soiling; the contour of the acetate fibers is similar to that of viscose fibers.

There are many other factors that should be studied further.

LEADING THE KNIT PARADE

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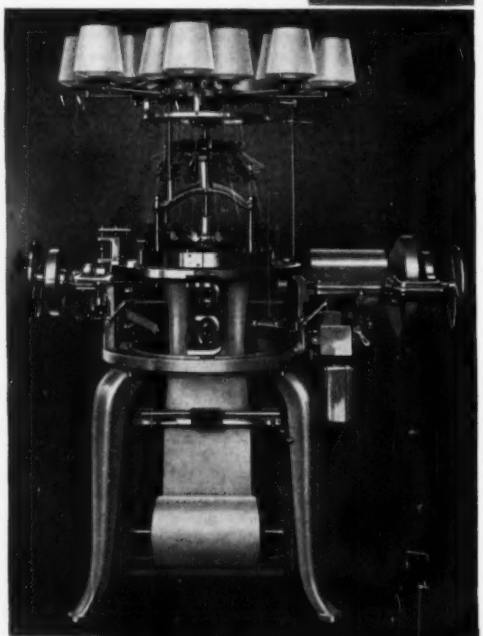
E-Z MILLS, INC., NEW YORK, N. Y.

The E-Z Trademark on underwear, sleepwear and hosiery for children has meant "top quality" to four generations of American mothers. Today, two great mills, one at Bennington, Vermont, the other at Cartersville, Georgia, are hard at work keeping up with the demand.

It takes "top quality" knitting machines to produce top quality garments. We're proud that much of the most modern of the E-Z equipment bears the Brinton trademark, famous in the industry since 1888.



One of the many Brinton machines used by E-Z is this model pictured here.

Engineered for the World's Greatest Knitwear Makers

BRINTON

CIRCULAR KNITTING MACHINES

KENSINGTON AVE. & A ST., PHILA. 24, PA., U.S.A.

Model RIBSTAN Style MF-RB

The maximum feed rib body machine is used by the progressive manufacturers of Men's, Women's and Children's underwear, sleeping garments and similar rib body tubular knit goods—plain, straight goods and shaped varieties.

You choose from two models of the Ribstan. The *Automatic*, equipped with mechanism for automatically changing the type of stitch as required for continuous production of shaped goods. Change is made from rib to tuck on any number of feed and a wide variety of combinations. The *Plain* model Ribstan is built for the manufacturer who wants high-speed continuous production of one type of stitch for straight goods—in plain 1 x 1, half-cardigan, 2 x 2 Richelieu or Swiss rib.

Model Ribstan has been designed to produce perfect fabric with great efficiency and low cost of operation.

The Ribstan is built in sizes from 8" to 26". From 8 to 26 feeds. Plain or automatic 1 x 1 and 2 x 2 and a great variety of stitch combinations. Average production is 20 to 25 yards per hour.

a service test with standardized procedure, it offers little difficulty in relating test results with service conditions. Although the floor test has a narrow field of direct application: namely, to floor-covering fabrics, it may offer a good opportunity for checking the results of the other two test methods against service conditions of certain types. Comparison can be made with the tumbler test where soil impingement is also principally incurred by deposition and transfer.

Selected VAT DYES Applicable to New Synthetics

By Rhode Island Section, AATCC

In the course of a study on continuous vat-dyeing of Dacron, it was discovered that the major problem, fastness to crocking, could be eliminated. Plant dyeings were made with vat dyes by a continuous process that showed excellent fastness to light and washing and no crocking, wet or dry.

Other results of the experiments were:

1. A surface stripping test was developed to show the degree of vat dye penetration into Dacron fibers. This test method is a valuable laboratory aid for determining the degree of dye penetration and is more rapid than the microscope techniques.
2. Many aqueous dyeings of vat dyes on Dacron fibers were made by continuous processes. But these dyeings, without subsequent heat treatment, did not exhibit penetration of the dye particles into the fiber.
3. The employment of pretreatments and the use of carriers or swelling agents was found to make no improvement in continuous dye application.
4. It was discovered that the physical state of the dye particles attached to the surface of the fibers made a tremendous difference in the degree of diffusion into the fibers and the brightness of the resultant dyeings.
5. The optimum time and temperature of the heat treatment required to diffuse dye particles into the fiber was found to be between one and two minutes at 430° F.
6. It was observed that after the heat treatment, where diffusion of dye into the fibers occurred, there was considerable shade change in the case of many vat dyes. An interesting observation was made that under ultraviolet light many extreme color changes and fluorescent effects were found after heat treatment. Similar changes have been found when the depth of dyeing was measured spectrophotometrically. No theory of the mechanism of these changes can be evolved with the limited data available.
7. On heat treatment without the use of chemical oxidizing agents, many leuco esters of vat dyes develop and penetrate into the fibers. This is an interesting discovery and has practical significance since it makes a simple leuco-ester application method possible.
8. Continuous plant dyeings were made on Dacron fabric using vat colors by original methods of application and after-treatment. These dyeings showed excellent fastness to light and washing and no crocking, wet or dry. A previously described method of dyeing was carried out under identical conditions, and, by comparison, was found to be less satisfactory.
9. A simple after-treatment with important commercial possibilities was developed that eliminated any tendency of vat dyes to crock.

VAT-DYE FASTNESS Evaluated by Microscope Studies

By Southeastern Section, AATCC

An investigation of the possible effects of fabric construction and preparation on the light- and wash-fastness characteristics of vat-dyed fabrics was conducted. Commercial fabrics of the same fiber composition, varying in fabric weight and construction, were used and were dyed according to standard commercial procedures with and without mercerizing. The fastness characteristics were determined by standard procedure supplemented by microscopic studies.

Although it is probably not possible to generalize from the few cases studied, the following results have been noted for the samples studied and the dyeing procedure employed:

1. The construction of a fabric is markedly influential in the penetration and depth of shade in a standard dyeing procedure.
2. Mercerization improves penetration and depth of shade for a given fabric in a standard dyeing procedure.
3. Light-fastness is a characteristic of the dyestuff itself and is apparently unaffected by fabric construction or previous mercerization.
4. Wash fastness is a characteristic of the dyestuff itself and is apparently unaffected by fabric construction or previous mercerization.

WOOL-DYE Agitation Reduces Surface Concentration

Submitted by J. H. SKINKLE and F. B. SHIPPEE
Northern New England Section, AATCC

▶ The term "ring disappearance" means the time after which dyeing no longer takes place in a ring fashion, or the time after which the concentration of dye at the center of each fiber is equal to the concentration of dye on the surface of each fiber. The measurement of ring disappearance is dependent upon an inter-relationship between the transmission of a dye solution and the reflectance of a corresponding dyed fabric.

It is known that dyeing is governed by two factors, the rate of deposition of dyestuff from the solution onto the fibers and the rate of diffusion of the dye particles into the individual fibers.

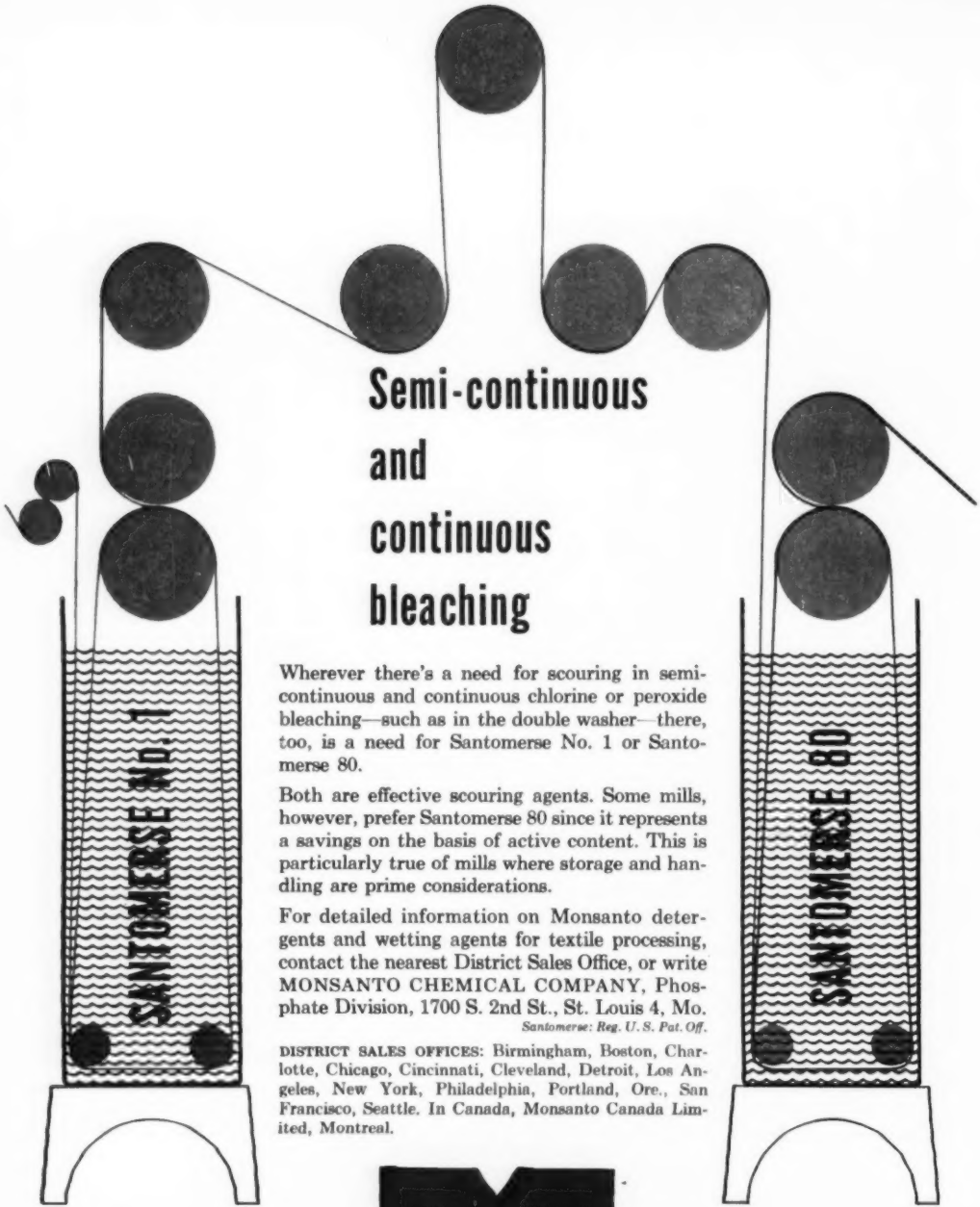
In the initial period, while the concentration of dye on the surface is greater than the concentration of dye inside the fibers, the rate of dyeing is governed by the speed at which the dye particles diffuse into the fibers. However, after the ring disappears, the rate of diffusion becomes greater than the rate of deposition, and the rate of deposition becomes the controlling factor in further dyeing.

In other words, in the initial period,

(*Continued on next page*)

Agitation (shaker-setting amplitude)	Equilibrium Exhaust Value (percent)	Ring Disappearance (minutes)
5	93.5	12.5
5G	93.0	15.0
5D	95.0	12.5
10	93.0	20.0

SHAKER ACTION (at a constant rate of 360 cycles per min.) with doubled arc or amplitude (10 instead of 5) increases the length of time before ring disappearance is complete. Equilibrium-exhaust value remains about the same.



Semi-continuous and continuous bleaching

Wherever there's a need for scouring in semi-continuous and continuous chlorine or peroxide bleaching—such as in the double washer—there, too, is a need for Santomerse No. 1 or Santomerse 80.

Both are effective scouring agents. Some mills, however, prefer Santomerse 80 since it represents a savings on the basis of active content. This is particularly true of mills where storage and handling are prime considerations.

For detailed information on Monsanto detergents and wetting agents for textile processing, contact the nearest District Sales Office, or write MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 S. 2nd St., St. Louis 4, Mo.

Santomerse: Reg. U. S. Pat. Off.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto Canada Limited, Montreal.

SANTOMERSE No. 1 **MONSANTO CHEMICALS – PLASTICS** **SANTOMERSE 80**

SERVING INDUSTRY . . . WHICH SERVES MANKIND

additional particles cannot deposit until those present on the surface move to the interior and make more sites available. In the latter stages, sites are always available, but the concentration of dye in the solution has by now been greatly decreased; and deposition, by mass action, decreases also.

The accompanying table shows that doubling the amplitude of agitation increases the length of time before the ring disappears. This indicates a decrease in the rate of diffusion of the dye into the fibers. Since the rate of diffusion is proportional to the difference in concentration inside and on the surface of the fibers, and the concentration in the interior is initially zero, this increased agitation must have reduced the concentration of the dye on the surface of the fibers.

The manner in which the agitation is applied to the dyebath is thus at least as important as the amount.

Dyeings were made on a wool-serge fabric that had been previously scoured with a non-ionic detergent and thoroughly rinsed. One-gram samples were dyed using a 50/1 bath ratio. The following dye formula was used for all dyeings:

1.0% Erio Floxine 2G (C.I.31)
2.0% Sulfuric Acid (96%)
15.0% Sodium Sulfate

Good Judgment Needed In Dyeing of DACRON

By Midwest Section, AATCC

Although a full range of shades can be obtained on Dacron with acetate and the azoic types of dyestuffs, carriers must be used, and good judgment in the proper selection of these dyes must be exercised for processing, regardless of whether it is high-temperature dyeing or dyeing done under atmospheric conditions. Not only should the colors used have an affinity for the fiber, but they must not be volatile under the conditions of fixation or adversely affected by heat, especially as regards sublimation.

Originally, the addition of benzoic acid (about 20 g. per liter) as a dyeing assistant was necessary to obtain maximum color value and leveling effects. However, the same corresponding shades can be obtained at 250° F. without carriers and with at least 25% to 30% less of the original dyestuff combinations.

Recently the use of para phenyl phenol and ortho phenyl phenol as swelling agents or carriers has produced good dyeing results, but the light fastness of most colors is affected to the extent that they show up as very poor in a Fade-Ometer test.

In both the acetate and azoic group of colors, there is a limited selection that will produce fairly decent fastness to light. The darker or heavier depths of shade exhibit from fair to good fastness to light.

As mentioned before, some colors have a tendency to melt or sublime at certain temperatures, thus creating an outside coating on the fiber commonly known as crocking.

For example: Celanthrene violet B.G.F. or Artisil direct orange 2R has good affinity on Dacron; but when either reaches a certain temperature, the colors will melt and create crocking, causing poor washfastness. This color bleeding and crocking can be removed by a light strip using 4% sulfoxite S and 2% acetic acid at 180° F. for 15 min. On heavy shades this stripping procedure has very little effect on the shade and removes the excess color sufficiently to give excellent washfastness.

The following formulas are those used in dyeing Dacron with both acetate and diazo colors. The best color selections for this fiber are given for dyeing at 250° F. by the methods described below:

Navy blue using acetate colors—
Wet out—15 min. at 140° F.
0.5% scouring agent
Dye bath—set bath
5.785% celanthrene violet B. G. F.
2.661% celanthrene brill. blue F. F. S. Conc.
0.372% acetamine fast yellow 4 R. C.
0.5% detergent

The color is first pasted with a dispersing agent, then diluted with water at 180° F. After complete dispersion, the dye is strained into the machine, and the temperature is raised to 250° F. Dyeing is carried out for 45 min. and then finished as follows:

1. Hot wash, 10 min. at 200° F.
2. Scoured 20 min. at 200° F. with scouring agent. Hot rinse until clear.

Navy Blue with diazo colors—

1. Wet out 10 min. with 0.5% scouring agent. Rinse at 140° F. To fresh bath at room temperature to 100° F., add
   - (DuPont) 5% acetamine diazo black 3B wet out with 2% alkanon D. W.
   - Raise to 200° F. during 15 min.
   - Close off expansion tank. Raise to 250° F. in 10 min.
   - Dye 1 hr. at 250° F.
   - Drop and rinse at 120° F.
   - Scour 10 min. at 160° F. with 2% caustic soda. Rinse warm at 120° F.
2. Add to fresh bath at room temperature: 2.5% acetamine developer A.D. Ex. (DuPont). Run 45 min. at 200° F. Drop and rinse 120° F.
3. Diazotize in fresh bath 30 min. at 90° F. with:
   10% sodium nitrate
   20% sulfuric acid
   Drop and rinse at 120° F.

The above formulas and methods of procedure are also practical on filament Dacron to obtain a wide range of shades.

INFRARED Photography; New Defect-Detection Tool

By Student Section, AATCC
Submitted by C. Franklin Donyes, N. C. State College

It was found that the application of infrared photographic technique to textiles possessed, in a number of instances, certain advantages over visual inspection or panchromatic photography. White goods were penetrated; many colors were penetrated or rendered as white; over-dyed colors were rendered visible; areas of poor penetration were detected; uneven dyeings were exaggerated; a certain type of abrasion was exaggerated; and views into the interior of a steam-filled dye beck were enhanced to quite a marked degree.

The penetrating properties and differential-reflectance properties of infrared were applied in experiments designed to exploit these properties to the best advantage.

Dyeing Penetration

Infrared photographs in several tests showed up areas of poor dye penetration visibly, thus indicating that poor dye penetration can be detected and exaggerated. The samples illustrate an earlier observation with regard to the build-up of depth of shade with increased dye penetration. For example, an over-dyed gray shade produced a photographic black in the areas in which there was good dye penetration.

(*Continued on page 286*)

Mill Men Are Finding HUMIDIFICATION one of their "BEST INVESTMENTS" *

"The result of about a year's service has been quite satisfactory. The mill personnel are very enthusiastic about the service rendered by the (humidification) system."
– Chief Engineer, Canadian Cotton Mill.

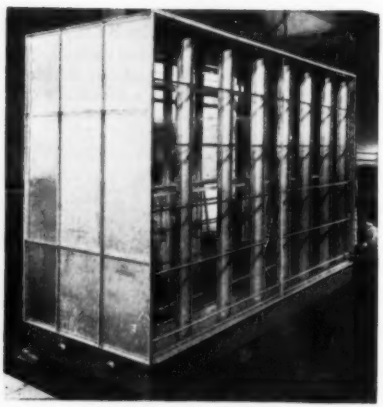
"Proper humidification lowers waste percentage with resulting savings in production costs."
– Cotton Mill President.

"The decision to install humidifying and cooling equipment in one of our knitting departments and also in a warehouse, has given excellent results. The quality of knitting has been much improved and the investment is decidedly worthwhile." – Mill Agent, Knitting Company.

"The recent humidification installation in our spinning and card rooms is one of the best investments the company ever made." – Mill President.

* Statements reported by *Textile World* in *Sales Signals*

–AND FOR BEST RESULTS *Specify* "Buffalo" FANS AND HUMIDIFIERS



"Buffalo" Type "H" Humidifier nearing completion. Note sturdy galvanized steel casing.

Textile mill technicians and officials are agreeing more and more on the value of air conditioning—in particular, air washing and humidity control—both for quality control and employee morale and efficiency.

The "Buffalo" fans and humidifiers shown will provide your mill with washed, filtered, properly tempered and humidified air on a year-round basis. What's more, they will do it with an absolute minimum of expense and attention. Efficient, trouble-free "Buffalo" Limit Load Fan combined with the reliable "Buffalo" Humidifier with accessible tank; good, heavy casing; bolted, sectional construction, all simplify installation and maintenance. Why not write for Bulletin No. 3142-D for facts on the humidifier that is improving the production picture in many mills today.

"Buffalo" FIRST FOR FANS

BUFFALO FORGE COMPANY

184 MORTIMER ST. BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

ROVING-FRAME Test Form Locates Operating Faults

PRODUCTION AND LABOR ANALYSIS

Frame size 7 x 3½ — Front-Roll Diameter 1⅛ in.
Spindles 160 — Rpm. of Front Roll 160
Hank Roving 3.00 Hk. — Standard Efficiency 90%

1. PRODUCTION	Per Frame	
100% hanks in 8 hr.	9.0	
Actual hanks in 8 hr.	8.4	
Percent efficiency	93.3%	
2. UNITS HANDLED	Per Frame	For 2 Frames
Actual hanks in 8 hr.	8.4	
Pounds per frame hank	53.3	
Pounds per frame per 8 hr.	448.4	
Bobbins doffed in 8 hr.	659.0	
Pounds per bobbin doffed	0.68	
Bobbins creeled in 8 hr.	264.0	
Pounds per bobbin creeled	1.70	
Total units handled in 8 hr.	923.0	1846
Standard units for 8 hr.		1778
3. END BREAKAGE PER 1,000 SPINDLE HOURS	Per Frame	
Caused by: Back-stock defects	2.8	
Faulty adjustments	0.0	
Operator faults	2.7	
Other ends down	1.2	
Unclassified	0.4	
Total per frame	7.1	

4. LABOR ANALYSIS (2 Frames, 8 Hr.)	Min. for 2 Frames	Percent Time
Stopped-off operations:		
Doffing	58.25	12.1%
Piecing up	10.75	2.2
Marking roving	4.00	0.9
Running operations:		
Creeling	129.50	27.0%
Cleaning	37.50	7.8
Bobbins on rail	23.50	4.9
Picking clearers	8.50	1.8
Other operations	11.25	2.3
Walking	41.25	8.6
Helping others	75.50	15.7
Resting	80.00	16.7

5. PAYMENT	Per Frame	For 2 Frames
Base hanks per frame	8.1	
Price per hank	$0.607¢	
Base pay per frame per 8 hr.	$ 4.92	
Actual hanks (2-frame average)	8.4	
Actual pay (1 frame, 8 hr.)	$ 5.10	
Weekly pay (2 frames, 40 hr.)		$ 51.02

SIMPLE SUMMARY SHEET of production and labor shows losses caused by both defective frame operation and by low operator efficiency.

- **A compact summary form proves valuable in detecting and correcting causes of production and quality losses**
- **All factors of operation are brought together for examination and evaluation**
- **Results indicate steps to take to improve operation and maintain quality standards**
- **The summary form can be modified to apply to any mill process**

By E. H. HELLIWELL
New England Editor, TEXTILE WORLD

A SIMPLE FORM has been devised and is being used by the superintendent of a New England cotton mill that is a compact analysis of all the important factors of roving-frame operation.

The relation of these factors to each other and their combined effect on the operation and production of individual frames is clearly shown by the chart. The same basic form can be used for analysis of any type of machine operation, the superintendent says.

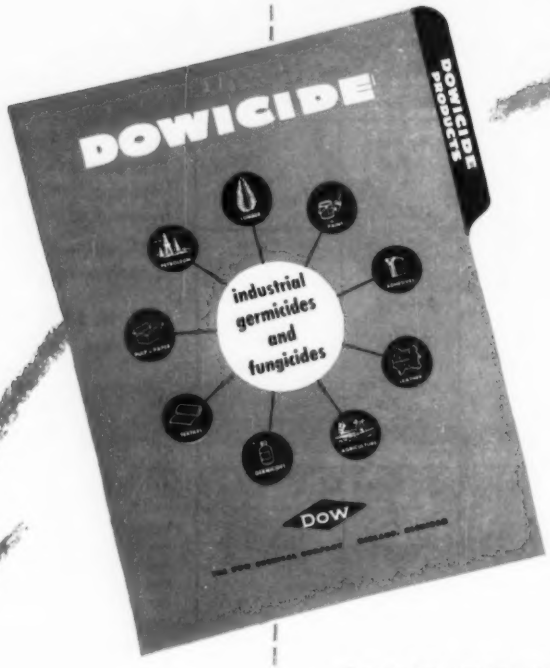
The chart is divided into five general aspects of roving-frame operation: production in pounds, units handled, end breakage, labor analysis, and labor cost. These five factors are all important in determining and controlling the quantity and quality of the product, the amount of work performed by the tender, and the wages paid for this work.

FIRST, production figures are obtained from the regular hank sheets. These figures show the number of hanks made in a given time. Comparison of these results with calculated "100% production" gives the operating efficiency of the particular frame. In our example above, the production efficiency shown exceeds the standard efficiency of the frame. This increase can in this case be traced to time saved in doffing.

SECOND, the units-handled data are obtained mathematically by taking the pounds produced on the frame and dividing that figure by the net weight

(Continued on page 248)

The Complete Story of Proved Protection against Mold and Bacterial Attacks!



FOR PROVED PROTECTION against MOLD and BACTERIA

mail this Coupon Today!

For the first time Dow offers you this easy-to-use, comprehensive file of information on Dowicide products . . . the time-tested industrial germicides and fungicides. The Dowicide product file tells how you can bring effective, economical microbial control into your plant. It assembles under one cover many suggested uses for Dowicide preservatives. In addition, it gives their formulas as well as their chemical and physical properties. Free your plant from costly attacks of mold and bacteria today. Send for your copy of the Dowicide product information file *without obligation.*

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The Dow Chemical Company
Dowicide Division, Dept. DC-81 Midland, Michigan

Please send me the Dowicide Product Information File.

Name _____ Title _____

Company _____

Street _____

City _____ State _____

I am interested in using Dowicide Products for _____

Dow
CHEMICALS
INDISPENSABLE TO INDUSTRY AND AGRICULTURE

SIGN OVER MILL GATE has red and green lights to show each day whether or not there has been a lost-time accident in any department. Individual shift records are posted prominently in each department.

This SAFETY PROGRAM *Really Pays Off!*

ACCIDENT-RECORD SIGNS are prominently displayed in each department of the mill. Each shift in each department has its own safety committee.

► $9,092, the paid-out cost of a year's accidents in 1946, cost at least $45,000 when secondary losses were also included in the reckoning at Erlanger Mills, Lexington, N. C.

► By means of an active safety program, in three years' time compensation and medical costs were reduced 80%—to $1,784—and over-all costs to $8,920.

► The $36,000 saving was realized through close cooperation of management, supervisors, and employees —and 21 departmental committees.

By CONRAD C. HINSON
Safety Director, Erlanger Mills

BACK IN 1946, when our mill-accident costs added up to $9,092 for the year as a result of rather desultory efforts in the prevention of accidents, our insurance carrier, Employers Mutuals of Wausau, impressed us with the fact that this was but a fraction of what these accidents were really costing us.

Ed Padgett, their safety engineer, showed us how the actual cost of acci-

There are at least 8 WAYS BECKMAN pH CONTROL Saves Money, Saves Time, Saves Waste in Textile Operations!

THE BECKMAN MODEL H-2 pH METER is one of a complete range of Beckman pH Meters available for every type of application*. The H-2 is particularly recommended for applications where high accuracy and simple operation—combined with the convenience and low cost of 115-v. AC operation—are desired.

It provides instant and direct pH readings, and a simple, built-in dial permits quick, convenient temperature compensation over the entire range of 0° to 100°C (32° to 212° F.). High reading accuracy is assured by wide-spread dual range scale that reads from 0 to 8 pH or from 6 to 14 pH at the turn of a switch. Same switch also provides instant millivolt readings from 0 to ±800 mv and from ±600 to ±1400 mv for titrations and oxidation-reduction measurements.

Built-in electrode support and compact case design save valuable space and permit easy portability to various plant locations.

Particularly important is the wide range of factory-sealed, maintenance-free Beckman Glass Electrodes available for use with this instrument . . . electrodes that are virtually unbreakable . . . that cover extreme temperature ranges from below freezing to above boiling . . . that have an unprecedented pH range with negligible errors . . . that are abrasion-resistant and chemically durable to a degree never before thought possible in glass electrodes.

*In addition to the H-2 Meter, other Beckman pH equipment includes completely automatic pH indication and control instruments for large-scale process applications . . . battery-operated models for complete portability in plant and field use . . . and a laboratory type instrument that features maximum versatility and accuracy for research and laboratory applications.

In mill after mill Beckman pH Control has proved to be the key to greater production, higher quality, better uniformity in modern textile operations. It will pay you to find out how others—possibly your own competitors—are making vital savings in their operations through the scientific application of Beckman pH Control in such typical applications as the following:

DESIZING—to prevent damage to fibers when removing sizing materials.
BLEACHING—to control alkalinity of the bleaching solutions, whether caustic or peroxide.
SCOURING—to control alkalinity of the soap solutions and prevent damage to fibers.
MERCERIZING—to control the caustic and prevent damage to the product.
CARBONIZING—to insure proper acid concentration for thorough cleaning.
SOAKING—to insure neutral soaking solutions prior to "throwing" rayon or silk.
DYEING—to control acids and alkalies for uniform dyeing and protection to cloth.
LABORATORIES—to increase the speed and accuracy of various research and control operations.
. . . and many other applications in the multiple phases of the textile industry.

In addition to providing a complete range of pH instruments to meet every requirement, from portable plant and field applications to large-scale process control, Beckman also provides the industry's most rugged, most versatile, most complete line of glass electrodes for every type of textile operation. See your authorized Beckman dealer for assistance in applying Beckman pH savings to your operations. Or write direct.

BECKMAN INSTRUMENTS
control modern industries

BECKMAN INSTRUMENTS, INC.
SOUTH PASADENA 12, CALIFORNIA
Send for free booklet "What Every Executive Should Know About pH." It's helpful and informative.

Beckman Instruments: pH Meters and Electrodes — Spectrophotometers — Radioactivity Meters — Special Instruments

WINNING DEPARTMENTAL POSTER on safety was submitted by an employee in one of the regular poster contests. Originators of winning posters in each department are awarded worth-while prizes.

COOPERATION IN SAFETY by management, supervisory staff, and employees was worked out by Smith Crow (right), vice president; H. W. Buckanana (center), plant superintendent; and the author (left).

dents, figured from many years of industry study, was five times the cost paid out for compensation and medical alone. Four dollars indirect cost for each dollar spent for compensation and medical care, he showed us, goes to pay for such things as damaged machinery, spoiled materials, lost production, lost supervision time, and other unpredictable costs that go hand in hand with the confusion that attends many types of accidents. And so in 1946 our total accident costs came to at least $45,000.

What We Did—Over-all

Three years of operation of a constructive safety plan brought about such an impressive reduction in both major and minor accidents that by 1949 our compensation and medical costs were reduced 80%—the basic figure for that year being $1,784. This total gave us an aver-all accident cost, based on the 4 for 1 ratio, of $8,920.00 —a saving of more than $36,000 over 1946.

The momentum of the safety program is still carrying on. From November, 1949, to Oct. 24, 1950, our 1,100 employees worked 2,008,000 man-hours without a single lost-time accident.

Everyone at Erlanger agrees that any safety program hinges on keeping the constant interest of three groups—management, supervisors, and employees. Experience has shown that, in spite of everything management can do in the way of providing safe working conditions from the physical standpoint, with machinery well guarded, only a small percentage of accidents can be prevented unless employees themselves are enthusiastic about the safety program.

Few accidents in mills like ours come from conditions peculiar to textile manufacturing. They come from such things as falls, from sprains, from cuts and scratches not properly cared for—in the main from thoughtlessness and carelessness. That is why it has been necessary to gain the help and support of the employees and build a workable safety program from the ground up.

What We Did—Specifically

As safety and production are so closely tied in together, our first move was the creation of what we call the Executive Safety Committee. This committee is composed of the safety director, the author; H. W. Buckanana, the plant superintendent; and the seven supervisors in charge of the major mill departments. Each supervisor is responsible for safe working conditions in his department. Regular monthly checks are made by an inspection committee composed of Ed Padgett of Employers Mutuals, the mill master mechanic, and the writer.

Our next move, and one that proved most successful, was the organization of employee safety committees on a more intensive scale than is usually found. We formed three safety committees for each of the seven mill departments—one in each department for each of the three shifts. They were chosen by departmental supervisors to serve for 6-mo. periods. Rotation of membership has thus meant that in the past three years, for instance, some 369 employees, about a third of our force, have had close association with safety work.

Each committee meets once a month, on company time, during the shift of which the people are a part. The committees discuss every accident that has taken place during the interval since the last meeting and make recommendations to the Executive Safety Committee as to steps that should be taken to prevent a recurrence. Members of these committees are continually on the alert to see that their fellow employees immediately report to first aid for the proper attention to every scratch or cut, no matter how insignificant it may seem.

But even with 21 active committees, employee interest in safety needs a continual shot in the arm to keep it at the peak. Just inside the main mill door there is a poster, changed weekly, that gives the total number of mill man-hours worked without an accident. Safety records of each shift are hung from a large sign in a conspicuous place in each department. These show the number of man-hours that each shift has gone without an accident.

At the time this article was being written, for instance, the first shift in the spinning room had not had a lost-time accident since Feb. 4, 1948. The entire spinning department had worked 1,632,839 man-hours without a lost-time accident—since Nov. 15, 1948.

By keeping records of the safety performance on a shift basis, the company avoids a let-down in interest if a lost-time accident occurs on one shift. Since the safety program began, there have been no lost-time accidents in the following departments: yard, miscellaneous, draw-in, and slasher.

FREE
TRIAL SAMPLE
Which of these Brytex products could make your job easier? Check the ones you would like to give a real plant test. We will immediately send an adequate sample and in addition, provide any laboratory services you would like to request.
√ SLASHING
☐ LUBRENE — A softener and lubricant for synthetics and cotton. Prevents rough, brittle warps.
☐ LIQUISIZE — Softener and plasticizer for homogenized starch. Emulsifies in cold water. Easily removed in finishing.
☐ SPUN SIZE S — Sizing gum for all staple fibers and all blends. Reduces shedding and balling of size.
☐ SYTEX — Special warp size for filament viscose and acetate. Gives tough, pliable film. Runs cleaner than gelatine or casein.
☐ CONDITIONOL W — Eliminates static! For uniform, high quality yarns.
PRINTING
☐ 745 GUM — Printing thickener for vat colors. Conserves color by increasing depth and brightness.
FINISHING
☐ 813 G GUM — A finish and weighter that will not discolor nor gum up. Recommended for Sanforized finishes.
☐ RESIN DJ — Synthetic resin for fabric stabilization. Crush resistance and permanent glaze. Compatible with other finishing resins.
☐ FIRMEL — Versatile resin finish, adaptable to permanent glazing, crush proofing and crisp finishes.
BRYANT CHEMICAL CORP.
N. Quincy 71, Mass. Box 2301, Spartanburg, S. C.
NAME ✓
POSITION ✓
Tear out and attach to your mill's letterhead
Brytex
PRODUCTS

Massachusetts TEXTILE DECLINE Needs Drastic Steps for Cure

The Problem

Manufacturing trends in Massachusetts since 1910 show a downward curve

- in value of product made
- in total wages paid
- in number of wage earners
- in number of spindles
- in number of plants

The Causes

1. High labor costs
2. Unsatisfactory labor relations in some plants
3. Attitude of state authorities
4. Trend to higher and higher taxes
5. No decision on 3rd-shift women workers
6. Labor shortages in some areas in times of good business
7. Power and fuel costs

The Solution

1. Equitable work loads
2. Educational campaign
3. State liaison with mill executives
4. Stabilized taxes
5. Women on third shift
6. Moratorium on industrial legislation
7. Specialization of product

Massachusetts Manufacturing Costs Are Higher Than Those In the South Because of Costwise Unfavorable--

Wage rates
Labor productivity
Transportation
Taxes
Unemployment insurance
Workmen's compensation
Power
Fringe benefits
Effect of political atmosphere

- **Number of wage earners between 1920 and 1947 dropped 47%**
- **Dollar value added by manufacture during same years declined 58%**
- **90 cotton mills were liquidated or moved from the Commonwealth from 1923 to 1948**
- **Six of the 34 Northern woolen and worsted mills auctioned or sold since Jan. 1, 1949, were located in Massachusetts**

By **FESSENDEN S. BLANCHARD,** Management Consultant

IT IS CLEAR THAT THE competitive position of the Massachusetts textile industry, in all its branches, is very serious.

This conclusion is based on the facts obtained in the textile section of a survey made for the Massachusetts Development and Industrial Commission. This report was released last November after two months of political controversy.

Unless some drastic change in the situation occurs, a further decline in employment is to be expected, either through the movement of equipment out of the State, or through the expansion and development in the South of new and modern plants that will still further aggravate the competitive conditions that now exist.

What Can Be Done

What can particularly be done in Massachusetts to help the textile industry may be summarized as follows:

1. **Work Loads**—In the long run we believe the tendency toward reduced wage-rate differentials between North and South will continue. Since we do not consider this any longer the most important factor affecting the competitive position of the Massachusetts textile industry, we would recommend particular concentration of effort on the other major factor affecting labor costs: work loads affecting labor productivity.

2. **Educational Campaign**—A program of education should be undertaken. This we believe should involve an educational campaign by both management and unions to obtain better understanding of the serious situation of the Massachusetts textile industry and recognition of the fact that the important factor to consider in work loads is not, for example, the number of looms per weaver, but the amount of work involved in handling those looms. Some managements have needed education in this respect also, as we know from past experience. Better work loads and greater productivity need better running work and require bringing mills up to the greatest possible peak of efficiency as well as an open-minded attitude by labor. This should, of course, be recognized by all parties concerned. Such an educational campaign in which manufacturers and union would share should help to build up a more constructive and cooperative relationship between management and labor.

3. **State Liaison with Mills**—The State authorities should recognize the serious situation and by more frequent individual contact with textile executives (which these textile executives should attempt to bring about also) acquire a better understanding of competitive conditions facing the industry. Through greater understanding, a more aggressive support of Massachusetts industry should ensue, matching that of other States.

4. **Stabilized Taxes**—A determined effort should be made by the State Legislature and Executive authorities to put the Massachusetts tax situation on a more stable basis and to correct the abuses in the handling of unemployment insurance* and put the reserves on a basis that would enable a resumption of merit-rating procedures.

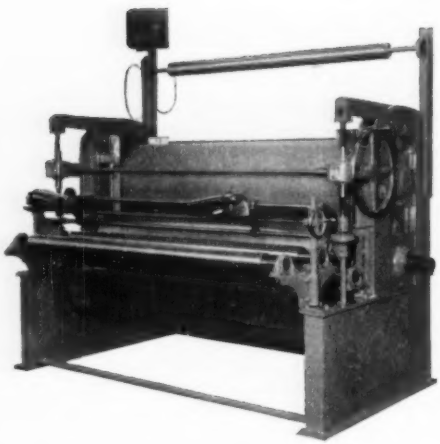
(*Continued on page 198*)

*Since submission and release of the report, the Massachusetts Legislature has passed, and the Governor signed, an improved unemployment-compensation law. Several previous efforts in that direction had heretofore been defeated.

Cook

absolutely level padding

P&N 2 ROLL PADDER



Sturdy box-type framework, fool-proof pressure control and reliability combine to make this Cook Padder M-5602–2 increasingly popular where absolutely level padding is required. It has particular appeal to dyers of expensive fabrics.

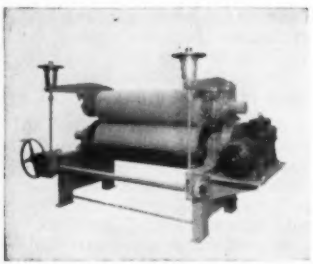
The lever-set pressure control is greatly improved to eliminate any binding and includes a new design roll separator. Furnished in 5, 10, or 15-ton capacity. Furnished any desired width.

With one stainless and one rubber or two rubber covered rolls. Rolls in self-aligning spherical bearings and designed to eliminate deflection. Centrifugally cast stainless roll optional.

Pans, or boxes of stainless steel, plain or jacketted, in various designs to meet your requirements for padding dyestuffs or finishing materials. Pan hinged for easy cleaning.

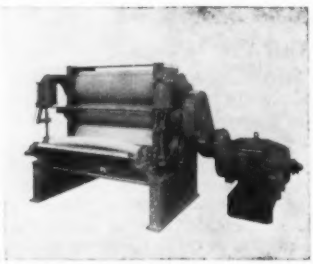
Pressure leveling, expander, let-off and take-up attachments as needed.

All Cook machinery is fabricated in our own shops allowing design flexibility *without* premium cost. Stainless steel fabrication eliminates broken castings and factory-made repair parts. All machines are guaranteed to perform as specified. Your request for information will receive prompt attention.

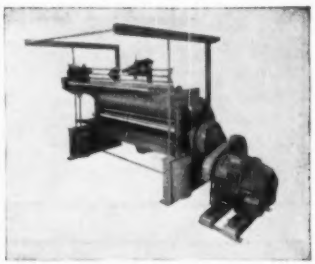


RUGGED STYLE C-M 1833-1 Rugged box-type framework, special bearing mountings and accessibility make this machine appeal especially to plant engineers. This new type bearing mounting saves much expense and lost time when removing rubber rolls for buffing in the plant shop and when replacing them. Furnished with microset, pneumatic or our improved lever-set pressure control in 5, 10, or 15-ton capacity.

Rolls expertly engineered to eliminate deflection. Centrifugally cast stainless steel roll optional. Self-aligning spherical bearings. Pans, or boxes, of stainless steel, plain or jacketted.



COOK 3 Roll Padder M 364-2 Where slippage is a problem this machine provides the solution. Drive is to the center roll which is in fixed position. Pressure is applied to both nips through an ingenious arrangement of pneumatic control. Chain drive is to top roll and necessity of keeping top and bottom rolls exactly same diameter is eliminated. In a short time this padder has proven its value in a number of plants. An automatic mechanical device keeps the rolls separated when not in use. In 5, 10, and 15-ton capacity and in any desired width.



PNEUMATIC STYLE A 1586-1 Box-type frame construction incorporating finest quality materials makes this a popular all round machine. Pneumatic pressure designed with cylinders inserted into frames and includes automatic hold up for top roll. Guiders and guide rolls adjustable vertically. Machine is furnished in 5, 10 or 15-ton capacity. Both rolls rubber covered or one made of stainless steel as shown. Roll bearings are self-aligning spherical roller type with 100% overload rating. Hinged stainless steel pan with or without jacket. Let-off and take-up attachment when required.

COOK-P&N MACHINE CO., INC., 365 Dorchester Ave., Boston 27, Mass.

Exploring

The Textile Community

Let's Look at America Through a VISITOR'S EYES

► **A word of praise is always welcome, but it's especially nice to hear when it comes from a stranger. Read how a visitor to America reacted—and you may get a new slant on your every-day way of living.**

By MILDRED BARNWELL ANDREWS

MILDRED ANDREWS

I'll bet all of you have had a real glow of heart-warming pride when someone dished out a nice bit of praise for something that meant a great deal to you. Like, for example, that prize-winning Peace rose you worked on so faithfully all summer, or the extra large beefsteak tomatoes that were far superior to any your neighbors raised. Or the pretty new curtains in your living room, or your new car, or the new television set. There is just nothing in this world like the feeling that comes when someone sincerely admires those things that represent achievement. Somtimes it takes the words of an outsider to make us appreciate what we have.

Praise—it's wonderful! It's wonderful when your family gives it, but somehow that is what families are for—to give us a boost every now and then. It is gratifying when your neighbors or your boss give it, but after all they have been watching you work, and they know how much you deserve that nice, friendly pat on the back. But when a total stranger, new to your ways and to your way of living, tells you in glowing terms that your life is fine and different and grand, then you see it anew; for that evaluation stems not from family loyalty or neighborly interest, but from an impartial source, comparing your way of life to that of others.

A Visitor Is Impressed

Recently, through ECA sponsorship, 18 young men from Western Europe were given the opportunity to work for a time in American textile mills under the in-plant training programs. They explored the communities where they lived and worked; and, for the first time, they learned to appreciate and understand what is meant by the "American Tradition": democracy, free enterprise, and our accepted standards of living.

Practical and cultural advantages accepted as a matter of course in the home of an American textile worker had seemed far out of reach to those young men from other countries. After their American visit, they found they had to re-evaluate life and work. In America, they found comfortable towns and friendly people. They grew very fond of Nashua, N. H., where they worked in the local Textron, Inc., plant. One of the young men was especially impressed with the general acceptance of *fun*. "Here," he said, "people swim, fish, know how to relax." And he told of his own country where food, clothing, and rents are high, and living facilities crowded. He compared wages and found them much higher in America. He was amazed at the high-speed machinery that made for greater productivity. He emphasized that in his country only the rather well-to-do people enjoyed such things as all-electric kitchens, television, smart cars.

He's Talking About Us

Any of us who work with the textile industry in any capacity may take to heart these things said by the young Hollander who had spent his working years in textile mills; who had known the hardships and terrors of living in an enemy-occupied country; who had made his escape to serve in the British Army. He knows and you know and I know that the things that are ours in America are not free gifts. But we enjoy them and take pride in having them because we have worked hard to get them. America was made strong because Americans were never afraid of work.

The privileges of a good job in a good mill include high safety standards, adequate lighting and color conditioning throughout the plant, modern materials-handling systems, quality-control programs, and even seeing-eye doors.

The privileges of owning and equipping homes, of enjoying vacations and holidays, of relaxing through hobbies and sports are all obtained as the result of many hours of work and excelling in work. Put all those factors together carefully and season with the most treasured privilege of all—the right to vote as we please—and we have American Democracy.

Perhaps it is necessary for a stranger to point out these things to us. It sounds good to hear it, but what are we going to do about it?

Commenting on the young Hollander's impressions of America, an editorial in **The Textile Neighbor** says:

"Very few who read this ever met Stan Van Zuiden, but everyone might profit from paying him heed for a moment. Boiled down to the meat of it, the message is:

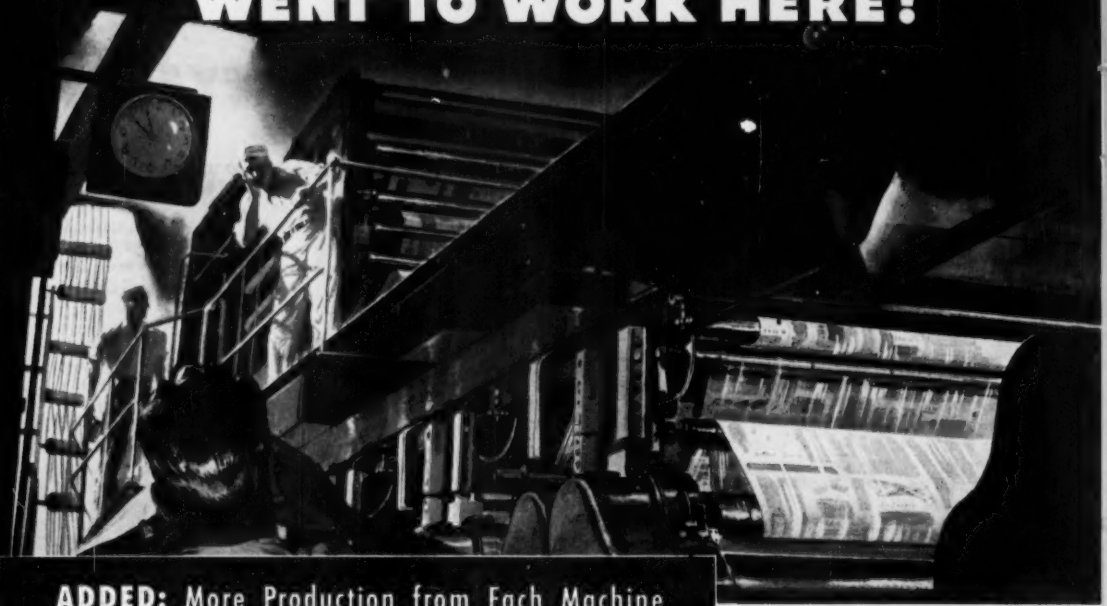
" 'You have something pretty wonderful here in America, but if you don't take care of it, you're going to lose it. . . .'

"Americans will fight a foreign enemy to keep their freedom. Many have died and others are dying at this very moment in Korea for freedom.

"Yet the tragic irony is that here at home we are undermining our own freedom by hamstringing industry, which is our 'free enterprise'; by letting government get bigger and bigger and dictate to us more and more; by swallowing the buncombe that we can get something for nothing from Washington; that the American business system is evil, profits are wicked, and capitalism benefits only the rich.

"Foreign visitors can see what's happening in America; we'd better see it, also, before it's too late."

Alemite "Friction Fighters" WENT TO WORK HERE!



ADDED: More Production from Each Machine

REDUCED: Stock Spoilage and Down-Time

SAVED: A Total of $4,247 Every Year

Friction was once a daily menace—and a costly one—in this Chicago plant.* Protected only by old-fashioned methods of lubrication, this company's mammoth high-speed presses were breaking down with alarming frequency. Stock spoilage was high. Oil consumption ran to $5,664 a year.

Then, a trained Alemite "Friction-Fighting" specialist was called in to work with the plant engineers. After a month's test on one press an Alemite Mechanized Lubrication System was installed on all five machines in the plant at a total cost of only $2,471.

Since that time, there has not been a single breakdown or bearing loss, stock spoilage and down-time have been greatly reduced, and lubricant cost has been cut to $1,417! This is an annual saving of $4,247, *in addition* to more production gained from each press, and a marked improvement in quality for increased customer satisfaction!

No matter what size or type of plant you operate, an Alemite Lubrication Engineer can show you dozens of ways of making worthwhile savings through more efficient handling of petroleum products. These are facts which you can readily confirm in your own time studies. The Alemite man will cooperate fully with your plant engineers in setting up a test. Contact your local Alemite Industrial Distributor, or mail coupon below—today! *Name on Request.

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1. Methods 2. Lubricants 3. Equipment

For industry, Alemite Centralized Lubrication Systems add productive time to machines with faster, more efficient handling and application of lubricants.

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FREE! New Booklet

Please send me:

☐ "11 Ways to Cut Production Cost."

☐ Include Facts on OIL-MIST—the amazing new system that atomizes oil, circulates it to bearings under pressure.

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TEXTILE Equipment NEWS

Flat Harness Eye Will Not Damage Other Frames

FLATTENED EYE has outside diameter smaller than width of frame (right). Thus, even when turned, it cannot damage adjacent frames.

Damage to harness frames caused by crosswise-turned harness eyes on adjacent frames can now be prevented by a flattened eye developed by Steel Heddle Mfg. Co., Philadelphia, Pa.

The novel feature of this new Stehedco eye is that while the inside diameter of the eye is round and the same size as a standard eye, the outside is so flattened that it will not exceed the thickness of the frame, but retains its original strength.

The flattened eyes may be obtained either unbrazed or brazed.

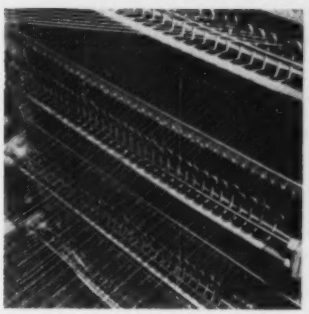
Take-Up-Roll Covering Sprayed with Metal

A new type of loom take-up-roll covering called "Texalox" has been developed by The Carborundum Co., Niagara Falls, N. Y. This covering is made of flexible cloth coated with evenly graded granular particles. The surface is then sprayed with a light coating of metal that preserves the granular effect and presents a hard durable surface. This coating, because of its uniformed-sized particles and even coating of metal, is said to present a constant gripping and holding action in all directions. The surface does not fill in and has long life.

The company claims that Texalox roll covering will help prevent cuts and chafe marks and will not accumulate dirt and grease. It will help produce a clean fabric. It is also impervious to oil, grease, and temperature changes. It may be cleaned without injury to the original surface.

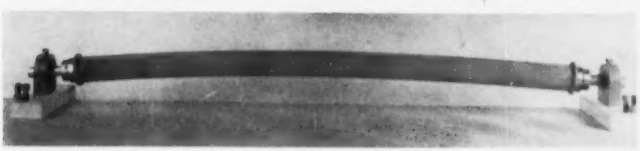
The roll covering can be used for all types of textile fabrics. Different degrees of coarseness are made for various types of fabrics. These range from very fine for silks and rayons to the coarser grade for cottons and woolens.

Stop Motion for Magazine Creel Improved



NEW DROP-WIRE DESIGNS for individual ends have been developed for the McBride stop-motion assembly for the SRM magazine creel by Edward J. McBride Co., Inc., Philadelphia, Pa. The individual units manufactured of sheet metal rather than bent wire provide faster and truer action with less wear and less danger of misalignment. Eyes are inset glass or porcelain, as desired.

New Rubber Expander Suited for Wide Range of Fabrics



STAINLESS-STEEL PARTS used in this expander are impervious to damp, sometimes corrosive dyehouse and bleachery atmospheres.

Development of a 3-in-dia. rubber-covered roll-type expander for textile plants, designed to meet the stretch requirements of every fabric from light rayons to duck or tire-cord fabrics and rolled sheet plastics, has been announced by Raybestos-Manhattan, Inc., Manhattan Rubber Div., Passaic, N. J.

In addition to requiring a minimum of space because of its small diameter, the Manhattan expander turns easily under low or high tension. According to the manufacturer, Manhattan's Parockite bearings reduce maintenance costs because they are permanently self-lubricating and have a low coefficient of friction. Metal parts are of stainless-steel construction, and with a thick, high-quality rubber roll cover, provide an expander that is resistant to corrosive conditions found in dyehouses and bleacheries.

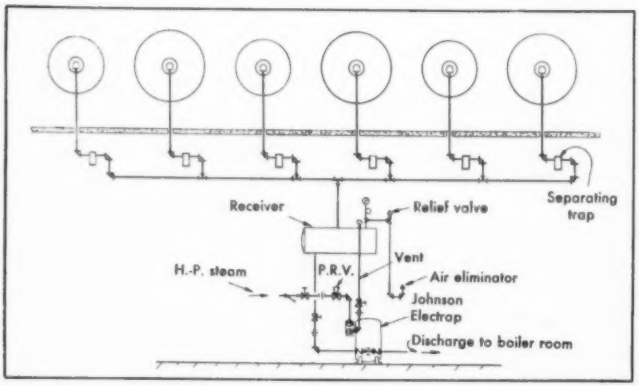
Coating Makes Stainless Steel Out of Any Metal

A new stainless-steel coating for all metal surfaces that can be applied by brush or spray gun has been developed by Steelcote Mfg. Co., St. Louis, Mo. Cost of the coating is about 4¢ per square foot.

The stainless-steel coating will protect against rust, corrosion, and other types of deterioration caused by salt air and water, industrial atmospheres, alkalis, oils, greases, most strong acids, heat, cold, and sunlight. The film is non-inflammable, odorless, tasteless when dry. The coating dries to handle in 30 to 60 min. It can be used in 3 to 4 hr.

The coating should be of particular interest to textile mills in the coming months when stainless-steel equipment may not be readily available.

Slasher Condensate Returned Without Loss



SLASHER-CYLINDER CONDENSATE is returned to boilers at 220° F. by this system of traps.

A new cost-cutting method of returning condensate from a slasher to the boiler room has been favorably reported on by a well-known textile mill. This new system is engineered by Johnson Corp., Three Rivers, Mich., around the Electrap, an electrically operated pumping trap.

The Electrap replaces the conventional centrifugal pump and receiver ordinarily used to get condensate from high-pressure processing equipment back to the boiler room. High-pressure condensate, of course, means high-temperature condensate, and with a conventional pump some of these valuable heat units must be deliberately dissipated so that the pump can handle condensate without vapor binding.

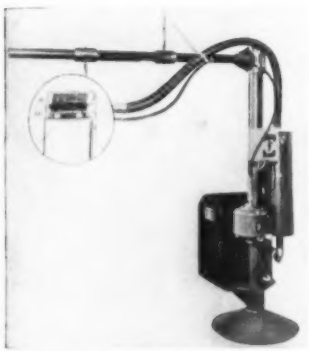
To reduce this high temperature, the receiver is usually vented to the atmosphere, to permit some of the condensate to flash into steam. As much as 15% of the condensate can be lost through flashing, depending upon temperature. Additional heat units are dissipated by the addition of raw water to cool the condensate still more to a pumpable 170° or 180° F.

The Johnson Electrap is a closed system, and condensate is returned to boiler room with heat units intact. In the installation shown in accompanying diagram, condensate is drained from the slasher by separating traps. Condensate is discharged into the receiver at approximately 220° F.

Operation of the Electrap is completely automatic. The trap consists of a chamber, three-way solenoid valve, and two motionless electrodes that determine the operating cycle. There are no moving parts in or on the Electrap proper, the manufacturer emphasizes.

Condensate flows into the Electrap chamber until the rising level reaches the short element. This completes a circuit through a relay which, in turn, operates the three-way solenoid valve to admit boiler pressure. This pressure forces the condensate in the chamber back to the boiler room. When the level falls below the long electrode, the three-way solenoid valve closes the inlet and vents pressure to the condensate receiver, where the condensate is held at 220° F. Then the Electrap fills again, renewing the cycle.

Cloth Trimmer Now in Self-Contained Unit



INDIVIDUAL-TYPE TRIMMER UNITS can be mounted next to examining tables in cloth rooms. Cloth passes head (left) that trims threads drawn into the trimmer blade by suction. A nosepiece prevents damage to cloth.

An individual-unit Trim-Master piece-goods trimmer is now available from Ginsberg Machine Co., Inc., 224 Fifth Ave., New York, N. Y.

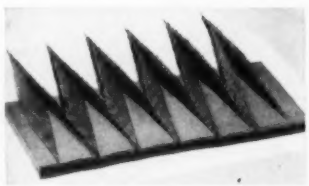
This newest addition to the Trim-Master family has suction and clipper action compactly constructed in one self-contained unit.

The new trimmer unit can be installed next to the inspection frame and permits selvage trimming, cloth examining, measuring, and winding in a single operation.

Designed for weaving, dyeing, and finishing mills, Trim-Master not only trims loose selvage ends, but also loosely closed selvage loops formed by multi-shuttle looms. It can be placed next to an examining frame, perch board, tenter frame, or other winding device. Installation is simple and economical.

The individual piece-goods Trim-Master is adjustable for width and type of cloth. A customized nose piece and blade combination assures maximum production and protects the fabric from damage.

Woolen-Card Fancy Clothing Is Self-Stripping



A STAGGERED PATTERN and double rows of wire are features of this fancy roll fillet for woolen cards.

A self-stripping fillet of unique design for use on woolen-card fancies has been developed by Duesberg-Bosson Card Clothing Co., Jefferson, Mass. The manufacturer states that this patented fillet has been used successfully in many foreign mills. The fillet is now being made in this coun-

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SINGLE HEAD SPOOLS

Another exclusive Sonoco development for packaging industrial threads. Constructed with a flush base which is tapered to permit smooth uniform tension to sewing machine. Available in a range of base diameters and barrel lengths with special surfaces. Colored lacquer tips can be ordered for identification.

Assembling Single Head Thread Spools from the molded bases and the precision made barrels.

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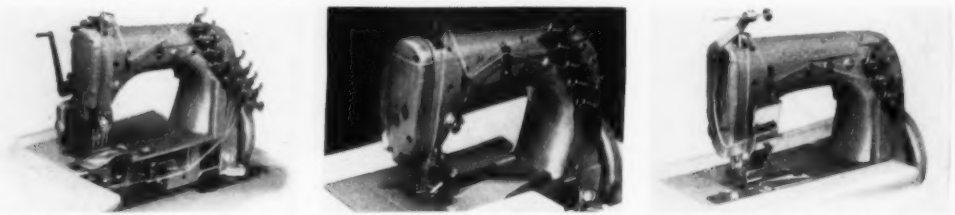
try to provide better service to American mills.

Advantages claimed for the new fillet are increased card production due to an estimated 50% reduction in down time for stripping, saving of labor cost for stripping, and improved yarn quality. The continuous-stripping action of the fillet is designed to produce a cleaner, more uniform sliver, resulting in a better product in each succeeding process.

Union Special Adds Three Machines For Mills



OUTWARD APPEARANCE of the three new machines is improved, and the frame is designed to do a better job of housing the operating mechanism. The cantilever-type presser spring has been replaced by a coiled spring that permits a more precise adjustment of pressure on the presser foot.

Three new machines of interest to textile mills producing their own garments, such as underwear, or other products, such as sheets and pillowcases, have been developed by Union Special Machine Co., Chicago, Ill.

The new additions to the company's 50,000 series flat-bed seamers are:

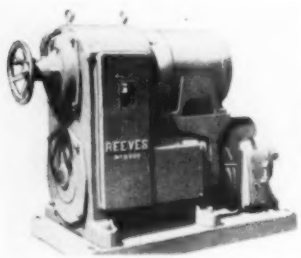
STYLE 54200 B: A streamlined four-needle machine, equipped with close-coupled top-driven puller, for attaching woven elastic to boxer-type shorts, children's play suits, boy's trousers, and similar garments. It can also be used as a two-needle or three-needle machine.

STYLE 52700 BN: For attaching elastic bands, ⅜ to 1¼ in. wide, in long lengths, garment lengths, or with ends joined to lightweight knit undergarments. Seam 406-LSb-1, inverted, is produced.

STYLE 52900 BG: A streamlined "Safety Stitch" machine for simultaneous seaming and overedging of dresses, coat linings, pillowcases, and similar articles.

Each of these new machines has a number of advanced features and improvements. Beginning with the new taupe finish, which is less fatiguing to the eye and easy to keep clean, improvements include automatic lubrication, wherein the filling of one reservoir provides complete lubrication for the entire machine. Lighter, yet highly durable parts at strategic points have reduced full-speed acceleration time by 50%. Antifriction bearings in the feed lift, looper avoid, and feed drive permit greater speed smoother operation with less wear. New seize-resistant main bearings prevent "freezing."

25-Hp. Variable-Speed Drive Developed



VARIABLE-SPEED DRIVE has capacity of 25 hp., and a speed range from 2:1 to 6:1.

A new size in its Vari-Speed Motodrive has been developed by Reeves Pulley Co., Columbus, Ind. Designated as Model No. 8000, the new unit has a capacity of 25 hp. and is available in all speed ranges from 2:1 to 6:1.

Like other Vari-Speed Motodrives, the No. 8000 is a complete, self-contained variable-speed power plant. It combines in a single space-saving unit the speed-varying mechanism, the user's choice of any standard constant-speed motor, and a built-in helical-gear reducer for times when low output speeds are required.

The new No. 8000 model is offered in horizontal and vertical designs. Handwheel control is standard, but electrical or completely automatic hydraulic controls are also available. A tachometer, calibrated to the user's specifications, may also be attached.

Doors Open or Close In 3½ Seconds

BI-FOLD DOORS that open or close in 3½ sec.—a feature valuable in air-conditioned plants—are available from Clark Door Co., 515 Hunterdon St., Newark 8, N. J. Doors are available in standard-size "package" units, or in special sizes up to 10 x 13 ft. Any type of remote control can be adapted.

Superior Performance

It's the job a Textile Spring-Beard Needle does that makes it outstanding for smoother knitting results . . . superior performance. Every dimension —length, width, thickness, taper—is carefully calculated to give you needles that are perfect in every detail.

Superior performance is one of the many advantages obtained through Textile's quality controls—automatic and electronic. You get amazing flexibility, proper tempering . . . qualities that mean better performance and bigger profits from your needle bars.

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 For more information, write direct or use Reader Service post card.

Optional Counterweights Improve Lift-Truck Versatility

MODEL-20 LIFT TRUCK (left) now comes in two types. By use of parts of the three-piece counterweight, the truck can be used over a wide range of loads.

Engineering changes in the Model-20 lift truck made by Hyster Co., 2902 N. E. Clackamas St., Portland 8, Oregon, will now permit a much more versatile use of this truck. At the same time, the problem of carrying around a lot of heavy counterweight not normally needed on average jobs in textile mills is solved.

New upright assemblies and new load-arm pins permit the use of optional additional counterweights on the standard 2000-lb.-capacity model, thus increasing or decreasing load-center or load capacity as the need requires. These improved engineering changes result in the following basic variations of the Model 20:

1. The standard 200-lb.-capacity model at 15-in. load centers is now available from the factory at 24-in. load centers, incorporating the necessary design and mechanical changes.

An optional three-piece additional counterweight is used to bring the truck up to 2,000-lb. capacity at 24-in. load centers. The optional counterweights bolt to the rear of the machine with 8 capscrews, adding 2¼ in. to the over-all length.

2. Also available is a new skeleton counterweight that will be installed on order at the factory, replacing the standard counterweight and reducing the weight of the truck by 600 lb. With the skeleton counterweight the Model 20 is rated 1,300 lb. at 15-in. load centers and 1,000 lb. at 24-in. load centers. There is no change in over-all length.

The skeleton counterweight makes the Model 20 one of the lightest lift trucks for its capacity in the world. This new design will be a boon to many applications, especially in older buildings with lighter elevators and limited floor-loading capacity.

3. Also made possible by redesign is the ability to bring the lightweight Model 20 up to standard capacity of 2,000 lb. at 15-in. load centers and 1,500 lb. at 24-in. load centers by adding the same optional 3-piece additional counterweight previously described.

Thus, three basic variations make possible at least six different combinations in the same model truck.

Fiberglas Truck Molded in One Piece

MOLDED CONSTRUCTION of this Fiberglas truck eliminates any possibility of snagging or tearing of fabrics.

A new line of molded Fiberglas trucks has been developed by Laminex Corp., Fall River, Mass. Lightweight and easily cleaned, each truck is molded complete in one piece. Unit molding eliminates the need for rivets, bolts, nuts, screws, or other fastening devices apt to snag such materials as yarns and fabrics. A rounded reinforcing top rail is built in, and vertical ribs are built in to supply extra strength. The result is a strong, smooth interior and exterior finish with controlled wall thicknesses. All horizontal and vertical corners have a gently curved radius that makes draining and cleaning easy.

These new-type Laminex trucks are non-conductive to static electricity and can withstand all chemicals commonly used in such processes as dyeing and finishing as well as in yarn conditioning. Construction is such that accidental damage can be repaired by unskilled labor.

Extreme lightness in weight and extraordinary ease of cleaning are two exclusive features of the truck. These features decrease work loads and tend to prevent the smudging of goods.

Propelled on easily replaceable casters of several choices, Laminex molded trucks are provided in a range of sizes from a small lace-yarn model to a large dyehouse truck capable of handling 3,500 lb. of wet goods.

Speed Indicators Cover Wide Range

A new ball-bearing spindle and a new dial with extra scale divisions that increase readability are two improvements now available in the Jacquet speed indicator sold by Herman H. Sticht Co., Inc., 27 Park Place, New York, N. Y.

The Jacquet chronometric-type tachometer has a guaranteed accuracy of ½%. Four different models cover speeds from 0.02 of 1 rpm. per division up to 100,000 rpm. The instruments are furnished in three different styles of cases with different sets of accessories to suit many different applications.

The speed indicators measure revolutions over a fixed period of 3 and 6 sec. respectively, after which the hands stop. The indicators are small in size and are ideal for spot checks of revolutions per minute or feet per minute in all cases where speeds remain fairly constant over 3 to 6 sec.

Gentlemen, may I say a few words

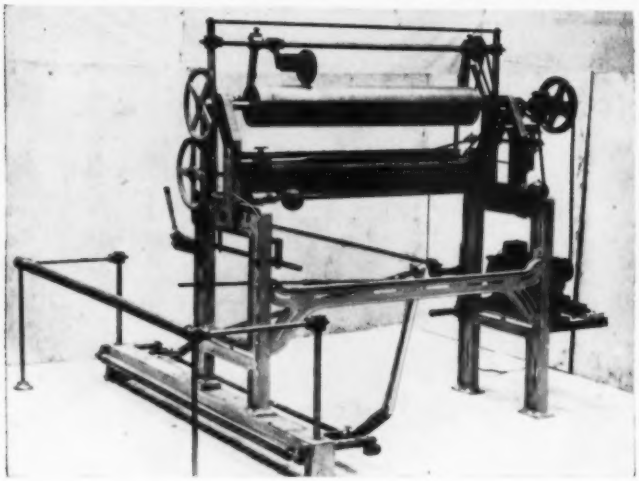
"1952 rounds out fifty years for the name Van Vlaanderen in the textile industry. May we thank our friends who have shown confidence in our integrity and ability to design and manufacture superior machines for fine fabrics? Your confidence, plus the imagination and foresight of our engineers, has made this company the world's largest manufacturer of processing equipment for modern fabrics.

"We at Van Vlaanderen believe that the next fifty years, under America's free enterprise system, will offer us greater opportunity to pioneer new machines for the industry."

P. Van Vlaanderen

Van Vlaanderen Machine Company

Rolling Machine Designed to Handle Warp-Knit Fabrics



FEED ROLL AND TAKE-UP cylinder are driven at the same rate. Fabric is rolled without tension.

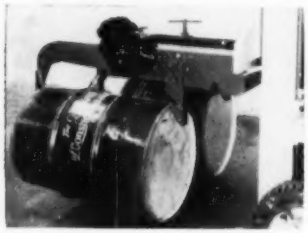
A new type of rigging and rolling machine for warp-knitted fabrics has been introduced by A. & H. Simonett (Engineers) Ltd., Bradford, Yorkshire, England.

Fabric is taken from floor level and passes around the doubling frame, from which it is taken upwards over bars and around a ridged wooden feed roller that delivers it to the tube or rod on which it is to be wound. This delivery roller is driven by surface contact with a cylinder that also incorporates a measuring device.

One of the fabric-roll-supporting arms is fitted with a spring-loaded device that permits easy removal of the fabric rolls. The contact pressure between fabric roll and driving cylinder is adjustable.

From the time the fabric is first folded on entering the machine, the fold is controlled by means of a vertical rod that bears inside the fabric and serves to keep the crease edge perfectly straight as the material passes to the feed roller.

Fork-Truck Attachment Handles Drums Horizontally



ONCE LOADED, this fork-truck attachment holds drums by gravity. There is no load on the springs.

A new horizontal drum-handling device that can be attached to any industrial fork truck without removing the forks or making any hydraulic or mechanical connections is now available from the Philadelphia Div., Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia, Pa. Completely automatic, the new device is a self-contained unit that fits over the forks and is fixed to them with two screw-type clamps.

One or two standard drums can be picked up with the drum handler by simply lowering it over them while the truck is slowly backing away. The rear clamps are spring-loaded and snap under the lip of the drum. When the drums are lifted, gravity action locks the clamping hooks in place.

Depositing the drums is just as easy as picking them up. The drums are lowered, the truck is moved forward (stretching the springs on rear clamps) and as soon as the forward clamps are free, the channels on the truck are tilted back. The truck is then backed away to free the rear clamps.

Despite the simplicity of the Yale handler, it is said to be safe and efficient. Loads will not drop when suddenly stopped, when traveling over a rough surface, or when truck channels are tilted.

The attachment weighs 270 lb. and permits the drums handled to be filled with any common material. Drums may be stacked to any height within the lifting range of the fork lift truck.

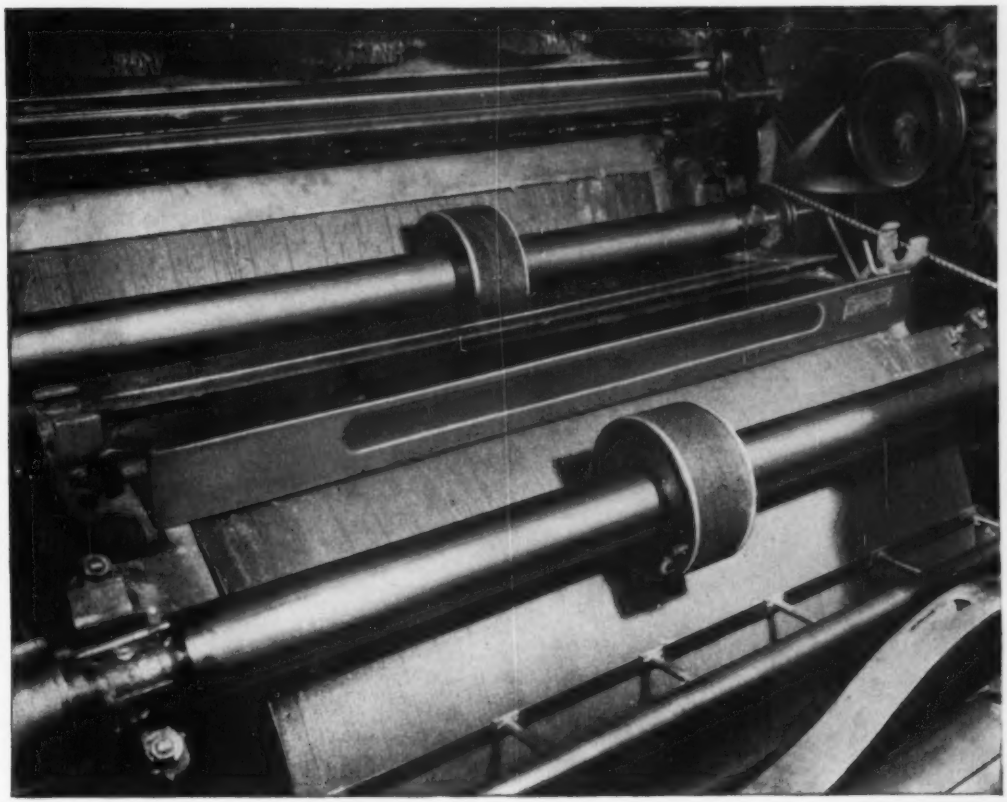
Motor Starter Has Side-By-Side Components

A new combination across-the-line motor starter with a circuit breaker in which the components are mounted "side-by-side" is available from Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh, Pa.

The starter has been developed for use where this mounting is desired for reasons of space and arrangement. This starter has the same self-indicating slam-proof handle as the standard design with vertical-mounting. The handle has separate positions for ON, TRIPPED, OFF, RESET, and OPEN COVER. It will accommodate up to three different padlocks.

This starter is available in Sizes 0, 1, and 2 in sheet-steel enclosures for NEMA Types I, IA, and V.

The company also has available modifications such as built-in control-circuit transformer, START-STOP pushbuttons, HAND-OFF-AUTO selector switch, control relay, extra electrical interlocks, and inductive shunts that can be supplied on special order.



A new Fillet Cloth for immediate delivery...

New uniform-cutting Fillet Cloth by CARBORUNDUM...made of highest quality Turkish emery...reconditions cards quickly and easily. No chiseled points due to uniform-grooving. Result: *True side grinding.* No hooking or bending of card clothing. Tough abrasive grains anchored firmly to backing...no shedding of abrasive. Clean, uniform edges eliminate gaps in spiral winding.

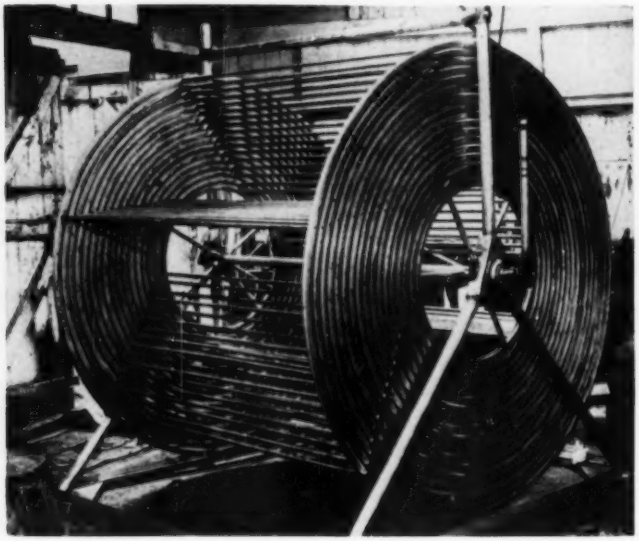
Your CARBORUNDUM distributor can give you immediate delivery from local stocks See for yourself the cost savings from this new fillet grinding cloth by CARBORUNDUM. Also available in aluminum oxide abrasive. Write Dept. TW 82-126 for further details.

NEW EMERY FILLET CLOTH

by CARBORUNDUM
TRADE MARK

"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company, Niagara Falls, N.Y.

Screen-Printed Fabrics Stored on Spiral Reel



SPIRAL REEL permits compact storage of screen-printed fabrics and easy movement of reel and fabric to an aging room.

A new type of reel has been developed for storing screen-printed or coated fabrics that picks up the fabric automatically, without touching the treated surface, and reels it firmly into a compact space in which no two layers of cloth touch each other. The machine is made by Cheskova Ltd., Mawdsley St., Bolton, Lancashire, England.

The reel consists of a number of skeleton cylinders of heat-treated, high-tensile, light alloy sections nested one on the other and run on spaced rollers.

The cloth enters into the center of the reel through an arc between adjacent sets of carrying rods that are aligned as tangents to the nested cylinders. As the machine is put into operation, the central cylinder to which the cloth is first secured is rotated on a ball-bearing-mounted center shaft. As it turns, a single-tooth gear is engaged and drives the next cylinder. This process is repeated until all the cylinders have operated and the cloth is in the form of a spiral.

The chassis and frame of the reel are made from high-duty light-alloy sections. The complete reel is comparatively light in weight and can be accommodated, when filled with cloth, on any normally constructed screen-printing table.

Electronic Weighing Scale Records Remotely

A highly accurate electronic scale that can record weights either at the scale or remotely, as in an office, has been developed by Streeter-Amet Co., 4101 Ravenswood Ave., Chicago 13, Ill.

By the use of electronic cells, this new Ametron scale will record and print on ticket, tape, or even a ledger remote from the scale, the exact weight. The load on the electronic scale is measured by Baldwin-Lima-Hamilton precision load cells. The signal from the load cells, which is proportional to the weight on the scale, is amplified and actuates an error-sensitive servo mechanism.

The indicating instrument is a full-figure step-cam-controlled recorder. It includes provision for multiple ranges to give increased capacity with high sensitivity and accuracy.

Both the load cells and instruments are designed to operate over wide ranges of temperature. Provision is included in standard recorders to compensate for tare loads.

The weighing system may be designed to operate with any number of load cells. Ticket, card, and ledger-sheet printers are available to meet various requirements. Dials, special printers, and other accessories are available. There also are several types of recording instruments available to meet various operating conditions.

Vacuum Impregnation Used in Lace Making

The old method of hand separation in lace making has now been superseded by a vacuum-impregnation process developed by F. J. Stokes Machine Co., 5500 Tabor Rd., Philadelphia, Pa.

In lace making, a number of individual lace strip patterns of varying widths are stitched together with basting threads during the manufacturing process to make a roll of finished lace up to 21 ft. wide. It was formerly necessary to clip and remove the basting threads manually before the individual strips could be separated and packaged, the company says.

Now, basting threads of cellulose acetate are used in the new process. After the roll comes from the loom, it is placed in a vacuum chamber. After air has been removed with a high-vacuum pump, the rolls of lace are impregnated with an acetone solution that completely dissolves the cellulose-acetate threads. The long rolls are then taken to the packaging room and run off as strips of varying width to be wound on the cards from which lace is sold in the stores. The lace is undamaged by acetone, which rapidly evaporates; the solvent is quickly removed and completely recovered by the vacuum system. It is then purified for re-use.

"here comes another one"

For nearly half a century, shipments of caustic soda, made by the Columbia-Southern organization, have been rolling over the rails.

With this background of experience, Columbia-Southern has pioneered in developing new methods of caustic soda production, handling, transportation and unloading in order to better serve its customers.

The growth of American industry is reflected in the uses and consumption of caustic soda. Columbia-Southern's original list of a few caustic soda customers has broadened over the years into an ever-widening circle of new users and new friends.

Columbia-Southern policies are an important factor contributing to enduring business relationships. You may find it to your advantage, as many others have, to specify Columbia-Southern as your supplier of caustic soda.

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ORTHO-DICHLOROBENZENE
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 For more information, write direct or use Reader Service post card.

New Fire Extinguisher Of Dry-Chemical Type

DISCHARGE of this extinguisher is claimed to be 95% or more of contents.

A new member has been added to the family of dry-chemical fire extinguishers made by The Fyr-Fyter Co., Dayton 1, Ohio. A combination of stainless steel and aluminum, the 20-lb. size weighs only 14 lb. 12 oz. empty and 37 lb. 2 oz. full. A 30-lb. size is also available.

The new models are tested to 500 lb. pressure and in many cases have gone to 1,250 lb. before rupturing. Operating pressure is from about 150 lb. initially to about 50 lb. at the finish.

A large, easy-to-hold handle makes carrying easy and provides leverage to puncture the pressure cartridge by downward thrust. A fingertip nozzle control provides blasts of powder when needed and assures complete shut-off to conserve the unused powder.

From 95% to complete discharge of contents is said to be assured by the advanced design of the extinguisher.

Device Acts as Loudspeaker for Phones

ADDIPHONE, sold by Exim Trading Corp., 11 Broadway, New York 4, N. Y., when plugged into a 110- or 220-v. line, permits using the phone without holding it. The incoming conversation can be heard through the speaker, and its volume can be controlled. The device is useful when rates are to be made, when conversations are to be recorded, etc.

Fiber Roll-End Protector Half the Weight of Wood

A NEW END PROTECTOR for carpeting that is shipped in rolls has been developed by Armstrong Cork Co., Lancaster, Pa. Shown above, the new protector is lighter, more inexpensive, and more easily handled than those generally used by carpet mills heretofore. The protector is made of Temlock, a tough fiberboard impregnated with asphalt for extra strength.

High-Accuracy Drive for Synthetic-Yarn Spinning Is Developed

A new drive for spinning machines that is designed to provide greater uniformity of denier and dye-ability of synthetic yarns than ever before obtainable has been developed by General Electric Co., Schenectady, N. Y.

This all-a.c. drive is said to insure uniformity through the most precise speed control ($\frac{1}{10}$ of 1% over a 7:1 speed range) ever obtained for spinning-machine motors.

The system uses an electronically regulated a.c. adjustable-speed motor, which drives a variable-frequency alternator through a two-speed, herringbone-gear box. The alternator output is delivered direct to small, synchronous motors on the spinning machine. These motors, in turn, provide direct drive to the machine positions, and eliminate troublesome and costly gearing, tapes, and line shafting.

Requiring only about two-thirds of the floor space needed for a comparable d.c. drive, the new system provides greater operational efficiency with fewer electric machines. Lower maintenance expenses and savings in power consumption are also claimed.

The first of these new G-E drives was installed recently in a Southern plant. Twenty others now are being built to order.

Fusible Disconnect Features Motor Starter

A new combination across-the-line motor starter with fusible disconnect switch is available from Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh, Pa., in NEMA sizes O through Z.

This starter, designated as Class 11-204-N, consists of a disconnect switch, main-line fuse clips, and a Life-Linestarter mounted in a common enclosure. The disconnect switch is of an improved design, with visible blades and De-Ion arc quenchers. A self-indicating slam-proof handle is provided in the cover. It has separate positions for ON, OFF and OPEN COVER, and can be locked in the OFF position by up to three separate padlocks.

Enclosures can be provided for general-purpose NEMA Type I, semi-dust-tight NEMA Type IA, dust-tight NEMA Type V, or NEMA Type XII to meet the JIC Specifications of the mass-production industries. Starters are available for 3-phase operation, up to 600, 60 cycles.

DRAPER CORPORATION ANNOUNCES THE PURCHASE OF THE WALKER MANUFACTURING COMPANY AND WILL OPERATE IT AS THE WALKER DIVISION OF DRAPER CORPORATION

FOR WEAVERS THIS MEANS FASTER DELIVERY, BETTER SERVICE BY WEAVING EXPERTS.

WALKER'S *production facilities are being greatly expanded.*

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Capacity will be more than doubled; Walker high quality improved still further.

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Stronger end braces; tripled production capacity.

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Including heavy duty carpet reeds with ¼" and ⅜" wide flat or oval dent wire.

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DIVISION OF DRAPER CORPORATION

ATLANTIC & RUTH STS., PHILADELPHIA 34, PA.

NEW Dyes AND Chemicals

New Process Aids Dynel Dyeing With Acid and Acetate Dyes

A new process for dyeing dynel with mixtures of acid- and acetate-type dyes has been announced by Carbide and Carbon Chemicals Co., Div. of Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

Principal feature of the new method is the controlled addition of copper with a reducing agent to the dyebath, thereby permitting a controlled rate of dyeing and dyestuff exhaustion. The process has been successfully employed in stock, top, and package dyeing of dynel. Adaptation of the procedure to piece dyeing is in process.

The technique is also useful in controlling the exhaustion of acid-type colors with reduced copper in dyeing dynel and other acrylic fibers.

In mixed acid and acetate dye formulations where acetate colors, usually lightfast yellows, are employed, the acetate-dyeing procedure for dynel is begun normally. Dyeing is carried out at a boil for 20 min. Sulfuric acid is then added slowly to adjust the pH to a value of about 5.5. After an additional 20 min. at a boil, copper sulfate, mixed cold with a reducing agent outside the bath, is added slowly over a 20-min. period until the desired degree of exhaustion is realized. Corrections with either acid or acetate dyes may be made. Additional copper with reducing agent may be added, if necessary, to obtain maximum exhaustion.

When an all-acid-type dye formula is employed to realize a deep shade, the use of p-phenylphenol may be necessary, depending on the particular dyestuffs used.

Raw-Nylon Warp Size Has Excellent Adhesion

An improved size for raw-nylon warps, Good-Rite TS-20, has been developed by B. F. Goodrich Chemical Co., Rose Bldg., Cleveland 15, Ohio.

The size is characterized by superior abrasion resistance and outstanding adhesion to nylon, the company states.

Good-rite TS-20 is colorless. It is supplied as a 25% total solids (active ingredient) solution that may be cut or extended easily by adding cold water. When diluted, the size is ready for use; it requires no additives. Since the pH of TS-20 is approximately 2, the use of stainless-steel equipment is recommended.

The following characteristics are claimed by the manufacturer for the size:

It has excellent adhesion to raw nylon.

It has excellent adhesion to itself.

It does not shed or flake; loom and machine efficiency are improved.

It is water soluble and easily scoured.

Based on the weight of raw nylon, the following applied weights of size indicate typical useage of Good-rite TS-20:

Single End Sizing
- Tricot Yarn—0.5 to 1%
- Warp Yarn—1 to 2%

Warp Slashing (total weight of size) (Whether raw nylon or single end sized yarn is slasher sized.)
- Filament Yarn—2 to 2½%
- Spun Yarn—8%

Orlon Package Dyed Deep, Brilliant Shades

Package dyeing of a new line of heavy, brilliant shades in filament and spun Orlon has been announced by Central Yarn and Dyeing Co., Gastonia, N. C.

The new colors were developed by the company's dye research laboratory primarily for high-style effects in full-fashioned hosiery, but they may also be used in half-hose and suitings.

It was stated that the new shades of Orlon have successfully retained the brilliance of the original dyeing after the hosiery or fabric is piece dyed, and that full cross-dyed effects were obtained where the dyed Orlon was used with cotton, wool, or other synthetic yarns.

Among the most popular of Central's new Orlon colors are chartreuse, fuchsia, green, and purple, all being deep brilliant shades which were reported fast to cross dyeing, boiling, preboarding at 270° F., with good light fastness.

Rustproofing Provided Without Coatings

An economical method of preventing rust and corrosion of metal parts, in the presence of air and moisture, is provided by VPI crystals, a slightly volatile amine nitrate now available from Shell Oil Co., 50 W. 50th St., New York 20, N. Y. This volatile corrosion inhibitor is now being used in protecting metal parts, assemblies, instruments, and finished products during shipment, storage, and through various processing steps.

Being slightly volatile at atmospheric temperatures, VPI gives off vapors that are carried by convection and diffusion to all surfaces of the metal, where they condense to provide a thin protective layer.

VPI, a powder-like substance, can be applied by placing it in a package enclosing the parts to be protected, by blowing it into an area to be protected, by putting it into a water or alcohol solution, and covering the metal parts in tote boxes. An unusual characteristic of VPI is that it will arrest corrosion at any advanced stage.

When using VPI, ventilation of the enclosure in which parts are stored should be kept to a minimum to insure the maximum protection period, and the parts should be no further than 2 ft. from the VPI source. Metal parts protected by VPI are ready for instant use since there is no grease or oil to remove. Relatively small quantities of VPI, established by practice, are required to give adequate protection. It is claimed that 1 gm. of VPI will protect a cubic foot of metal parts, or surface, for periods up to a year. Solutions of from 2% to 4% are effective in protecting processed metal parts.

Two types of VPI are available; VPI 220, which has greater vapor pressure but less stability at higher temperatures than VPI 260, which is more widely used by industry.

New Dye Carrier For Synthetics Offered

5-chlorosalicylic acid, suggested as a highly efficient carrier in the dyeing of acrylic and polyester fibers, has been developed by Heyden Chemical Corp., 393 Seventh Ave., New York 1, N. Y. The product is expected to be of special value in dyeing Dacron polyester fiber.

New Antimildew Agent

Kemysal, a new antifungus or antimildew agent for cotton, wool, or linen is being offered by The Flax & Fibre Institute of America, 6423 N. Newgard Ave., Chicago, Ill. The product is said to be non-toxic.

New Textile Fungicide Can Be Mixed with Water

An easy-to-handle liquid fungicide for textiles containing 10% copper 8-quinolinolate is now being marketed by Nuodex Products Co., Inc., Elizabeth, N. J. Called Quindex Emulsion Base, this compound can be prepared for use by merely adding an equal part of water and stirring. No emulsifying agent is necessary.

Quindex Emulsion Base meets a number of government specifications for the mildewproofing of fabrics, threads and cordages. A large percentage of items treated are for Air Force use.

New Standard Soiled Fabric Offered

A new artificially soiled cotton fabric that is designed for general use in the laboratory has been developed by Foster D. Snell, Inc., 29 W. 15th St., New York 11, N. Y. The new soiled cloth will be supplied as FDS soiled cotton, and will complement PSC soiled cotton for multi-wash testing and its FDS soiled wool for light-duty detergents already offered to the industry.

The soil employed consists of a mixture of carbon, saturated fatty acids, saturated oils, and mineral oil. Saturated oils are used to minimize tendency for the soil-removal characteristics to change with age. It has been found that over a long period of time—at least several months—

(Continued on page 206)

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NYTRON IS THE ONLY SYNTHETIC ORGANIC DETERGENT THAT GIVES YOU THIS COMBINATION OF PROPERTIES

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Now . . . get better quality work by replacing all or part of the high-priced soap in your formula with NYTRON. This quality product provides better and more rapid soil removal, improved suspension of soil, faster and more complete rinsing. You save money and get better results in the bargain!

NYTRON is not a soap, not an alkali, not a mixture; it is a patented wetting agent-detergent with an exclusive combination of properties. These properties enable NYTRON to provide exceptional detergency at low concentrations . . . to reduce wetting time . . . to work efficiently in hard or soft, hot or cold water . . . to go into solution fast . . . to remain chemically stable—to rinse thoroughly and quickly. Yes, NYTRON gives the kind of performance you have always wanted in a detergent; it will cut costs and improve the quality of your work.

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Use NYTRON for Wools, Nylons, Rayons, Cottons

- scouring prior to yarn and cloth dyeing
- rope soaping of dyed cloth
- a penetrating and leveling agent in dyeing operations
- carbonizing of wool (wetting and penetrating)
- scouring woolen, rayon and nylon piece goods
- many other operations

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How To Prevent "TRICOT TROUBLES"

with single end nylon sizing and coning

To be sure of getting first quality yarn at the tricot machine, consider the advantages of single end sizing and coning.

Many of the defects which might stop the tricot machine are eliminated by sizing on the Leesona No. 250B sizing machine. For example:

Runs and Smashes. Sizing places a protective coating around each end of yarn, binds the filaments, and protects the yarn against abrasion that may weaken it during later processing.

Dirt Marks. The size also prevents dirt from penetrating the yarn. Dirt stays on the size coating and is easily removed with the size during scouring.

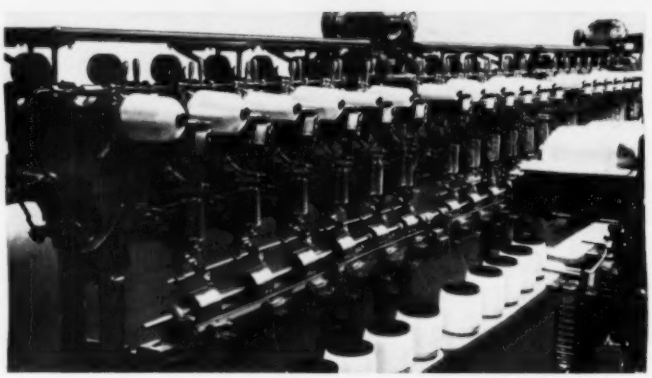
Single-end inspection by precision slubcatchers on the Leesona No. 50 pineapple coner also keeps imperfections from reaching the tricot knitting machine.

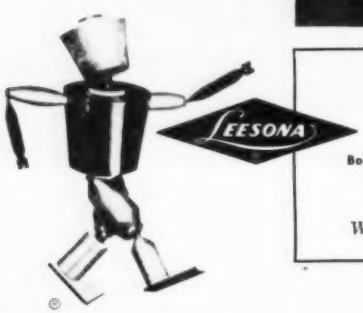
Double-ends are caught by mechanical inspection on the coner.

Static is considerably reduced by application of an anti-static oil during coning.

Barre marks and drag marks are reduced when stoppages on knitting machines are held to a minimum.

Nylon yarns processed on Leesona sizing and coning machines run better on tricot knitters.





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LETTERS FROM OUR READERS

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Editor, *Round Table*, TEXTILE WORLD
330 West 42nd Street, New York 18, N. Y.

Round Table

STRAIGHTENING NEEDLES

Dear Editor:

On page 122 of the May issue Mr. H. B. LeFeaux justly stresses the importance of training full-fashioned knitters to straighten needles properly. However, two of the drawings on the second page of the article are badly misleading.

If one considers the relative position of the needles and the sinkers, it must be readily understood that loose lines are caused by needles whose stem is bent toward the needle beard, and not vice versa as stated in the article.

Personally, I should prefer to explain the facts in more popular terms. Any full-fashioned knitter understands that a needle with a "belly", or in general any needle whose lower part of the stem is closer to the sinker head than the adjoining needles, will cause a loose line.

However, the matter does not rest with the curved stem. A needle may be perfectly straight in itself; but if it is prevented for some reason from entering properly in the slot of the needle bar, it will cause the same defect as a needle with a "belly."

There is, moreover, a third possibility. A needle whose beard has too much curve of too sharp a presser angle may cause a distinct line closely resembling a loose one. This defect is not due to loose knitting but to the additional stretch to which the originally normal stitch has been subjected after pressing.

And all this is finally subject to the line-up of the needles in the bar.

K. ALBERT HAHN F.

Santiago, Chile

NOISY MILLS

Dear Editor:

In industry, the effect of noise in terms of fatigue and inefficiency has long been neglected or underestimated.

Yet in some mills, machinery noises have been quieted to a point where figures show that production capacity of employees has increased approximately 9%. Noise has also been cited as a major factor in the excessive turnover in the textile industry of many women employees.

The study of noise through noisemeters and audiometers is interesting. Loudness is recorded in units called decibels or phons. If we take the average loudness of a conversational voice as about 50 decibels, a whisper at a 5-ft. distance measures about 10 decibels, which is very quiet, like the rustle of leaves in a gentle breeze.

On the other hand, the noise of a pneumatic drill in the street rises to 90 decibels, somewhat higher than the average in a textile mill. A structural riveter causes a noise of 100 decibels. The upper limit is 130 decibels, where sound begins to be painful to the ear.

I agree with acoustical engineers that machinery designers should give more consideration to the noises their creations produce. Meanwhile, worn parts, improper mountings and locations, infrequent oiling, and noisy open gearing are factors in noise abatement that mill men can tend to while awaiting the day for noiseless machinery to arrive.

DR. W. SCHWEISHEIMER

Rye, N. Y.

REGAIN FORMULA

Dear Editor:

We are using a moisture-regain formula in our mill that may interest other TEXTILE WORLD readers. We use it in deciding whether drawing-sliver weight variations are caused by improper processing ahead of drawing or by the extreme weather changes that we are subject to at this time of year in New England.

The formula reads "Corrected Weight equals Standard Weight X (100 + Prevailing Regain), all divided by 107."

The prevailing moisture regain is obtained from the wet and dry-bulb hygrometer and the regain scale. The formula is then used to convert the standard weight at 7% standard regain to the corrected standard weight at the prevailing regain.

It has worked out best for us that if the actual weight varies 1% or more from corrected standard, a crown-gear change is made. A 2% or more difference call for a draft-gear change. With the use of this system of regain correction on

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"I should think you'd be happy the boss lets me use it for our dates!"

drawing weights, we have found that very few changes in gearing are required.

As an extension to the formula, we have worked out a permanent table to cover the standard weights used within our usual range of moisture-regain variations. A glance at the table gives the corrected standard weight at the prevailing regain for comparison with actual weighings.

S. C. H.

Lowell, Mass.

INDUSTRY DIVERSIFICATION

Dear Editor:

It certainly seems a shame that the trend is to take well-established textile mills and uproot them lock, stock, and barrel and move them down South to operate them profitably. Nor is the situation entirely beneficial for the South itself.

As you know, the textile industry is an industry that fluctuates more rapidly than any other industry I know of. It would seem better for any district if it were mixed with other industries besides textiles so that the ups and down of our industry would not affect a whole section so radically as they will when a whole section specializes only on the one industry.

In many ways Pennsylvania has found a happy medium in this respect.

PENNSYLVANIAN

Scranton, Pa.

UNION SUPPORT

Dear Editor:

The following question and the answer given by a prominent research director at a meeting in California may be of interest to your readers. Your printing it should bring out comments on the subject by textile executives.

Question: Wouldn't there be fewer workers in unions if the labor movement were supported by wholly voluntary forces rather than by compulsory methods?

Answer: I don't know of a single type of political expression that hasn't been promoted. It's a social problem.

The analysis of a need; the placement of that need; the searching on how to meet the need—never are these answers found in the masses. The Christian Church wasn't developed in that way. It owes its size and strength to many, many centuries of promotion. We call it evangelism, a slightly better word.

The Chamber of Commerce of the United States did not come into being by spontaneous combustion. And one of the Chamber's biggest jobs is the continual urging of men to join. The American Management Association had to be promoted.

Of course you can fool people into joining something, but you cannot do it for a very long time unless you exert compulsion. And I suppose some will say, "Well, there is the answer" with regard to unions.

Some people may think that union members are blackjacked into the unions. I just don't believe it. I don't believe that anyone who has been close to the labor picture believes that any great number of workers were blackjacked into the American labor movement. There may be a few isolated cases where that has happened, but the majority were not recruited in that manner.

No, the workers that joined unions were frustrated, wanted some participation, wanted some part, something to say. Then the promoters came along and said, "Boys, here is your chance." And so they gave it a try.

And these members will only stay in the long run if the leaders make good their promises.

EASTERNER

New York

CURRENCY DEBASEMENT

Dear Editor:

In 1933 an Act of Congress repudiated the Government's promise to pay in gold. The flagrant dishonesty of taking our currency off the gold standard, combined with the power to tax incomes without limit, has opened wide the door to debauched currency. National economic havoc through exploitation of our whole national productive capacity is at last staring us in the face.

In 1939 the Legislature of the State of Wyoming adopted a resolution looking to repeal of the 16th (Income Tax) Amendment. In its place is suggested a new amendment to the Constitution of the United States that would establish the maximum aggregate rate of all taxes, duties, and excises that Congress might collect on as not to exceed 25%. Resolutions to that effect, with some differences and variations, have been passed since that time by 20 other States.

Let emergencies, if warranted, stand on their own feet and be financed by special emergency taxes. Let the 25% limitation be suspended for only one year at a time.

The first guardian for our future is a virile productive economy in which the government plays the role of an honest umpire, not a slick operator.

And the first step to check governmental spending proclivities made possible by printing-press currency is putting the dollar back on the gold standard, in which shelter people can take refuge when they have had enough, like right now.

W. C.

Nashua, N. H.

Test Your TEXTILE IQ

▶ Each correct answer rates 10 points. A total of 70 is passing; 80, good; 90, excellent; 100—you're a genius! Keys to answers are on page 206.

1. The "patient that died" in a recent "operation" was
   a. Bates Mfg. Co.
   b. American Woolen Co.
   c. Mt. Hope Finishing Co.
   d. Textron Southern

2. For new plants and equipment during 1951, American textile mills spent or committed
   a. $440,000,000
   b. $746,200,000
   c. $1,100,000,000
   d. $3,864,000,000

3. This season the percent of the nation's cotton crop that has been mechanically harvested is about
   a. 8%
   b. 17%
   c. 36%
   d. 50%

4. A non-toxic and non-tendering acid seen as potentially useful to textile chemists is
   a. carbonic acid
   b. carbolic acid
   c. glycolic acid
   d. gluconic acid

5. The 1951 Olney Medal was awarded at the AATCC national convention to
   a. C. Norris Rabold
   b. George L. Royer
   c. Raymond W. Jacoby
   d. Edward R. Schwarz

6. Many carded-yarn mills with a little more effort could obtain spinning-cost reductions up to
   a. 30%
   b. 60%
   c. 75%
   d. 100%

7. Presetting nylon hosiery before seaming can allow a seamer to increase her daily production by
   a. ½ doz.
   b. 3 doz.
   c. 9 doz.
   d. 15 doz.

8. The percentage of size content on cotton warps may vary from
   a. 2 to 3%
   b. 4 to 14%
   c. 20 to 30%
   d. 35 to 50%

9. Loopless-toe hosiery knitting saves
   a. 10 to 15¢ per doz.
   b. 15 to 20¢ per doz.
   c. 20 to 25¢ per doz.
   d. 25 to 30¢ per doz.

10. By using a spindle adapter, Joanna Cotton Mills Co. each year saves, in doffing cost alone, over
   a. $2,000
   b. $12,000
   c. $18,000
   d. $25,000

Check These Extra Advantages of RHONITE R-1

✓ *Non-volatile—applied and controlled with ease on standard resin-finishing machinery.*

✓ *Stable to storage—no refrigeration needed.*

✓ *Completely soluble in cold water — simply add and stir.*

✓ *Compatible with other commonly used finishes.*

Be wise and thrifty; get full details of unique, new RHONITE R-1 resin.

RHONITE, LYKOPON *are trade-marks, Reg. U.S. Pat. Off. and in principal foreign countries.*

CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

WRITTEN COMMUNICATIONS
Must Be Backed Up by Facts

▶ Worker morale depends on more than a series of letters from the boss. A supervisor can help his company build an intelligent information program and can make it work by reading up on it and knowing the answers to questions employees ask.

By **PAUL A. KING,** Bigelow-Sanford Carpet Co.

You may have noticed an increasing tendency among some companies to rely on written communications to build high employee morale.

Such reading material is good, but it is misplaced unless the company builds its written-communications program on a firm foundation of good working conditions and fair earnings. Without adequate wages and working conditions, a program of letters from the president, employees' newspapers, bulletin-board notices, and so on, will fall flat on its face.

Such a program will also fall flat on its face unless the supervisor is accorded his part in the picture. What is his part?

Before talking about his part in the communications picture, let's briefly mention some of the other fallacies made by those companies who depend so much—sometimes wrongly—on written communications to build morale. The pitfalls are not difficult to avoid once they are understood.

Tell Workers the Truth

First, some companies fall into the error of keeping their employees in the dark all year 'round about how much money the company is making; then when a walkout threatens, they write to the workers telling them how bad business is and that an increase in pay is just not in the cards. Workers will have a greater inclination to believe these sad stories if the company has built up confidence in communications by telling them glad stories when there was glad news to dish out. Letters about how poorly off a company is carry more weight if they fall normally into a series of stories about the company's operations—good or bad.

Then when a company decides to tell its story to its workers, it should tell them the whole story. When workers are told about high operating costs, they should also be told about the efficiencies made with their help.

You do not have to be a supervisor for long to realize that when there is a gap in the story, the worker will use his imagination to fill it in; and what the worker passes on as facts will often do more injury to the company than the truth—the whole truth.

Avoid Dry-As-Dust Lectures

Then some companies feel that they know exactly what interests the worker. They proceed to tell him about how his country's economic system operates, about how he must shun Communism, how well capitalism works. Now there is nothing wrong with telling the worker about his country, the evils of Communism, and the advantages of capitalism. These truths are not treated enough. But there may be a more effective way to bring these truths home—through the things that interest the worker most: what happens in his plant in which he spends 40 hours a week and on which his bread, clothing, and rent depend.

Let's tell the worker about the problems of running his plant—about how it takes money and how much money; how the sales department fits into the picture; how he himself fits into the picture. He'll get a better understanding of capitalism and develop a higher degree of loyalty to our country if he first understands his plant—and realizes that this country of ours is nothing more than his plant duplicated a thousand times over. Dry-as-dust economic lectures are not as effective as homely facts applied to his own plant.

And while on the subject of "economic lessons begin at home," when presenting the information to him, let's take a page from the union's book—or rather the union's newspapers. Let's not underestimate the tabloid approach. (We wonder how many management people are intrigued by the bathing beauty that appears in each issue of the TWUA newspaper.) Let's give our written communications the human-interest touch.

Be Prepared To Answer Questions

Well, what about the supervisor? How does he fit into the picture? Granted good working conditions, fair pay, and written communications furnishing facts about the company, it's the job of the supervisor to furnish additional facts about the company. He must answer the questions that written communications just can't handle. He must be able to answer the questions that often are raised by written communications.

One textile company we know about makes it a point to furnish its supervisors with copies of all written material before distribution to the rank and file. This gives the supervisor time to read the material and himself get the answers to the questions that he anticipates will be asked of him. For example, this company we have in mind was about to distribute a pension booklet describing the pension plan of the rank and file. Before normal distribution, a copy was given to each superintendent and a meeting was held, during which its contents were reviewed. Thus, two purposes were served. The supervisor was primed to answer questions, and the worker was taught to look to the supervisor for answers.

Rayon Reports

Prepared Monthly by the American Viscose Corporation, New York, N. Y. January 1932

NEW MACHINE SHORTENS RAYON DYEING TIME

Utilizes increased speed of diffusion at elevated temperatures and pressures.

A new type, high-temperature, high-pressure machine just installed in Avisco's Textile Research Department promises to shorten dyeing time for rayon and synthetic yarns and fibers. Increased thickness of metal in the machine permits operation up to 300° F. in a closed system with little or no air present, thus speeding dye diffusion and permitting use of vat and other temperature-sensitive dyes.

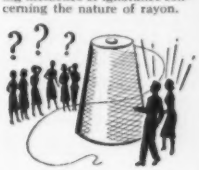
The pilot model now in operation is at present being used to work out problems in connection with Acrilan, the new acrylic fiber. Two pounds of yarn in wound package, cake, or staple form can be dyed. Its installation is part of Avisco's continuing effort to keep pace with modern textile technology, and broaden still further its service to its customers and the textile industry.

RAYON 20 YEARS AGO

PARIS, January, 1932 – Oversized umbrellas covered with rayon fabrics in bright colors and patterns are the newest style here.

NEW YORK, January, 1932 – Rayon plush is being used with a soft rubber backing for bath mats.

NEW YORK, January, 1932—A recent survey of department store personnel shows an alarming incidence of ignorance concerning the nature of rayon.



MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

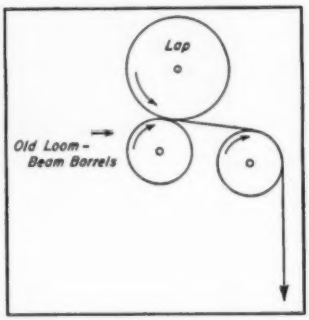
AMERICAN VISCOSE CORPORATION

World's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

Kinks AND SHORT-CUTS

Rejected Laps Fed Uniformly—And Only 1 Man Needed



AUTOMATIC FEED for rejected laps is made from old weave-room parts.

We used to have two men unroll the lap on the floor when the picker room sent bad laps down to us in the opening room. Then all the cotton was thrown in the hopper of our waste feeder. The main disadvantage of this system was that it took two men to do the job.

We built an automatic feed for rejected laps. All we used were old whip-roll bearings and old loom-beam barrels.

First, we got two beam barrels and turned them down to 8-in. diameter. Then we mounted them in the whip-roll bearings on top of the hopper.

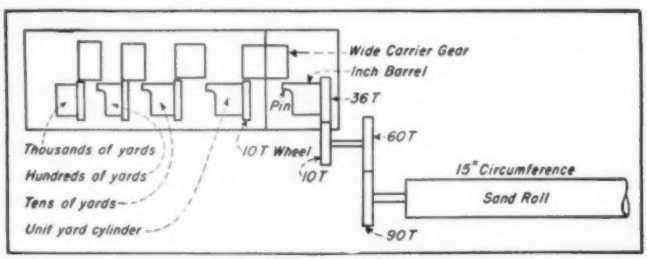
We drive the new feed from the bottom apron with a sprocket and chain. We can set the speed of feeding wherever we want it by selecting the proper sprocket.

Now, one man tosses the rejected lap up onto the new feed rolls and drops the end outside the rolls. The feed stops when the hopper stops.

The device can also be used for blending card strips in the pickers.

By using this device, we've made the job of using rejected laps easier for one man than it used to be for two. *J. B. Boyter, Albertville, Ala.*

Yardage Recorder Eliminates Calculating from Pick Count



GEARING DIAGRAM shows how yardage recorder works.

Loom production is ordinarily recorded in picks, and the yardage actually woven is calculated from the picks recorded. But this system doesn't take into account the actual take-up or pick-outs and requires a separate calculation.

I fixed up a yardage recorder that eliminates all of the above difficulties. Here's how I made it.

I geared my recorder to the sand roll of the loom. On the end of this roll is a 90-tooth gear. Circumference of our sand roll is 15 in. So every inch of cloth moves the 90-tooth gear 90÷15, or 6 teeth. You can see from the sketch that I put a 60-tooth gear and a 10-tooth gear on the same shaft and meshed the larger gear with the 90-tooth sand-roll gear.

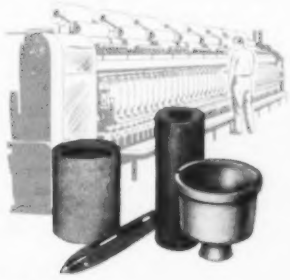
The 10-tooth gear moves one tooth for every inch of cloth woven; so I put a 36-tooth gear in mesh with the 10-tooth gear. Now, the 36-tooth gear makes one revolution for each yard of cloth. I painted the numbers from 0 to 35 on the circumference of this 36-tooth gear.

A pin on the other end of the 36-tooth gear meshes with a wide carrier gear that meshes with a 10-tooth gear. Once each yard the carrier gear moves the 10-tooth gear one tooth. So the 10-tooth gear records yards, up to ten.

In a similar manner, my yardage counter records tens, hundreds, and thousands of yards. By using gears attached to small metal cylinders on which the numbers are printed, I can

micarta is basic!

In vital places in the textile industry



TEXTILE INDUSTRY

Bobbins, shuttles, spools and lap rolls are typical of MICARTA products which are vital elements in textile production. Its tough, light, long-wearing qualities offer infinite possibilities in the growing textile industry.

MICARTA* helps keep key machines productive. It is a basic material . . . a versatile plastic which outlasts metal and wood in many punishing applications. Bobbins, shuttles, spools and lap rolls are only a few of the many MICARTA products paying their way in your industry.

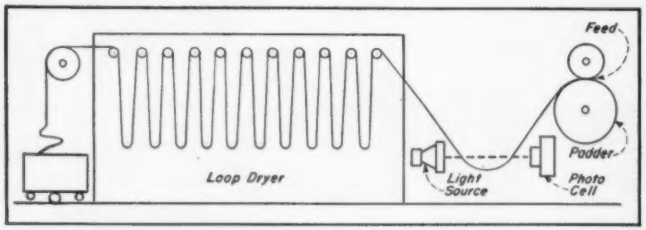
MICARTA safeguards yarns and fabrics. It won't chip or splinter. It wears evenly and smoothly, absorbs shock and vibration, resists heat and cold.

This lighter-than-aluminum material can be machined, formed or molded easier and more economically than metal. Protect your vital applications with MICARTA. Westinghouse Electric Corporation, MICARTA Division, Trafford, Pennsylvania. J-06448-A

read the yardage directly, and to the nearest inch.

Advantages of my method are: (1) any reversal of the sand roll automatically reverses the counter; so an accurate reading is always given, (2) pick-outs do not affect the recorded yardage, and (3) yardage doesn't have to be calculated—actual woven yards are indicated, including take-up.

How We Control Tension Between Padder and Dryer



ONE PHOTOELECTRIC RELAY CONTROLS TENSION on cloth between padder and dryer. This simple system eliminates two photoelectric relays and a motor-operated rheostat.

We have devised a simple method to control the tension of the cloth between the padder and loop dryer in the finishing of our standard rayon fabrics.

The method eliminates the use of multiple photoelectric cells, motor-operated rheostats, and other complicated auxiliary equipment. One single photoelectric relay and a make-and-break contact switch, with this method, provides efficient slackness control at high or low speeds.

Before perfecting this simple method of tension control, considerable experimenting was done in our plant with two photoelectric relays and a motor-operated rheostat. These experiments proved that the two-relay system was too slow in action and not suitable for high cloth speeds on the padder and dryer. Tests made with a single photoelectric cell showed that the slackness of loop between padder and dryer could be held constant within 3 or 4 in., plus or minus, at any required cloth speed.

In our single-relay method, a beam of light from the light source is directed across the space between the padder and the dryer. Sufficient slackness of the cloth between the padder and dryer causes the looping of the cloth to cut this beam of light to the photoelectric cell and thus actuate the contactor switch.

The d.c. motor on the padder is used as the following motor, while the dryer motor acts as a lead motor. When the light beam is broken by the cloth loop, the photoelectric relay closes the contactor switch and momentarily short-circuits the shunt-field rheostat on the padder-motor circuit. This action slows down the padder motor.

When the reduced speed of the padder causes the cloth loop to lift, the light-beam contact is restored. The photoelectric relay then de-energizes the contact switch, breaks the short circuit on the shunt-field rheostat, and speeds up the padder motor. This tension control has been in actual operation for over three years without the replacement of the relay or auxiliary parts. *James S. Campbell, Manchester, N. H.*

We Can Predict How Checked Fabrics Will Look

We save a lot of unnecessary work in weaving sample patterns by using a simple method of predicting what our checked patterns will look like after weaving. As a result, we can throw out a lot of combinations without the expense of weaving.

All we do is paint the warp pattern on a piece of cellophane or even a white tissue paper such as onion skin. The proposed filling pattern is painted on a piece of plain white paper.

Then we just cross the two patterns by putting the warp on top of the filling. When we try several combinations, it's easy to predict which ones will look best woven. *Hokao Fukaya, Japan*

New Ring Gear Cuts Loom Downtime

Clarence W. Yonce, head of the Graniteville machine shop, holds the newly designed loom gear to show how the ring gear fits onto the machined hub.

When a drive gear on a Draper loom wears and must be replaced, it is necessary to remove the shaft along with the gear; and the loom is out of production for some time during the replacement operation. Normally, it requires from 1 to 1½ hr. to complete the job.

It is not always possible to forecast just when this gear may need replacing or when teeth may break. Therefore, replacement has not been made on a schedule but rather when operations necessitated a new gear. Many times, replacement comes when you really want the loom to do its best.

We solved this problem by cutting the teeth from old gears and machining them smooth so that they serve as a hub for new ring gears to be fitted on.

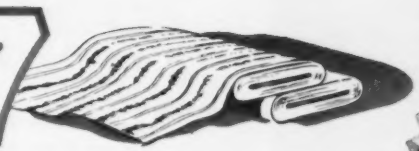
Ring gears are cast and new teeth cut by the machine shop. Several spares are always available in the shop.

When a drive gear needs replacing, all we do is unbolt the old ring gear from the hub and replace it with a new one. This operation takes about 30 min.

The new-style hub and gear are replacing the ones now on the looms as they wear.

This method has saved us lots of time, and downtime of the loom has been reduced because the loom does not require disassembling to fit the gear.

17



17 distinct specialized lubricants make up today's regular Cities Service line for the textile industry—aside from the variety of Cities Service oils and greases made to private specification for textile machinery of many different types.

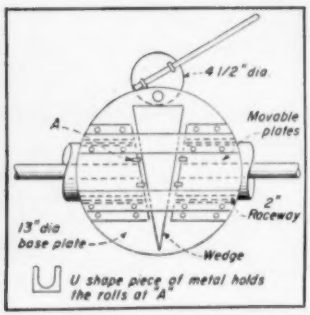
In Cities Service therefore, you have a single substantial source to rely on for exactly the lubricants suited to any operating conditions of yours. You can get Cities Service types—viscosities—compounds—to keep any machine's bearings, shafts and textile output cleaner. You can keep gumming, friction and your power load down to the minimum.

For the good evidence you want, you can wish your most stubborn lubricating problem on to a Cities Service Lubrication Engineer. Watch him study it out for you; see what his recommendation will do to further production and profit for you. Simply write CITIES SERVICE OIL COMPANY, Dept. A38, Sixty Wall Tower, New York City 5.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

How We Separate Top Rolls Without Pounding



ROLL SEPARATOR consists of off-center cam, wedge, and long handle.

Ask a shop man how much trouble he has in "breaking" top rolls apart and he will say, "Plenty." And a lot of pounding is required to loosen the tightly fitted rolls so that repairs or replacements can be made.

In many shops, the practice is to devise some sort of tool that will fit between the joints and then pound the tool so that the rolls are not injured. This practice takes a lot of time and physical effort.

We came up with a design for a roll puller that is simple in design and easy to operate. All pieces used to construct the tool came from the scrap pile.

First we bolted raceways on a circular steel base. Then we inserted two moveable plates to hold the rolls in the raceways. A triangular plate served to force the movable plates outward. A 4½-in.-dia., 2-in. circular plate was mounted near the edge of the base and bolted off center to act as a cam. On this cam was mounted a handle.

We put our roll sections in the puller and easily force them apart with little effort and no damage to the rollers. *Grady Sanders, Graniteville, S. C.*

Loading and Unloading Trucks

Here are a couple of ingenious ways to make loading and unloading easier, where no loading dock is available.

ELEVATOR

Some plants have found it worth while to drive a truck onto a special elevator and then lower the truck until the tail gate is level with the ground.

SPECIAL LIFT TRUCK

Another method is the use of a new type of hand truck fitted with a hydraulic hoist. This hand truck is used to pick up and transport the load in the ordinary way, then lift the load to tail-gate height for transfer into the truck.

$200 for Best Kink in 1952
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short-cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month; maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1952.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

TECHNICAL EDITOR, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

TECHNICAL EDITOR, TEXTILE WORLD
330 W. 42nd St., New York 18, N. Y.

NEW ENGLAND EDITOR, TEXTILE WORLD
P. O. Box 305, Salem, Mass.

Swing to—

BOGER & CRAWFORD

SPUN NYLON YARN!

The quality of Boger & Crawford yarn is guaranteed—the highest tribute we can pay it.

SIGNED Frederick Boger

"SWING" is in the air!

. . . to Boger & Crawford spun nylon yarn! 60/2 and 80/2 ply.

Ideal for weaving and knitting! Sweater . . . skirt . . . stockings . . . by "courtesy" of B & C spun nylon yarn! Available in 20 wonderful fast colors. Color fastness equal to or better than Synthetic Fiber Test #1 and #2 AATCC.

Write for free samples of colors today!

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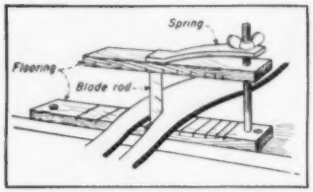
Kinks AND SHORT-CUTS

This Leather Splitter Saves Us Time—And Belts



TO GET THE MOST OUT OF LEATHER, you can split old belts with this device.

We're saving money with a device that helps us to re-use belting that would otherwise be thrown away. When one of our big belts goes now, we just cut it up and make smaller belts that we can use for doffer belts, card belts, and harness straps. We also make some of our own lug straps, heel-bolt straps, and clearer-board straps for drawing and roving frames.

Ordinarily, the job of splitting wide belts would take too long to justify the work. But our belt-splitting device enables us to do the job quickly and easily.

All I did was fasten a blade in a vertical position on my workbench so that I could pull a belt toward me to split it.

Here's how I made it.

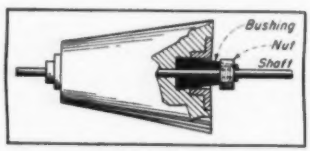
I got a piece of hardwood flooring 2 in. wide and 2 ft. long. Then I bolted this board to the top of my workbench, close to the front. This is the bottom support of the blade.

To hold the top of the blade, I got another piece of flooring about 1½ ft. long. This board was held in place by a ¼-in. threaded rod that I fastened through the bottom board. The top piece is 10 in. above the bottom one.

For extra support I fastened a steel spring on the threaded rod so that it presses down on the top piece of boarding.

I cut notches in the top and bottom supports to hold the cutting blade. The notches are spaced at irregular intervals so that I can cut just about any size belt to any desired width. A small strip of wood holds the blade in the notches. *J. B. Boyter, Albertville, Ala.*

We Don't Let Cone Drives Loosen



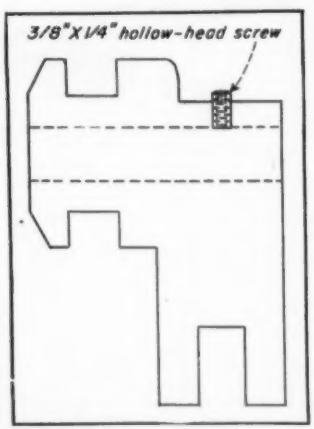
THIS CONE-SHAPED BUSHING has eliminated a lot of maintenance work and production stoppages.

We had the problem of loose motion of the cone drives on shafts, especially on the picker. While a lock screw or setscrew normally kept the cone tight on the shaft, the cone often worked loose. This condition resulted in slippage, loss of power, and inefficient operations. It also took time to check for this looseness and make necessary adjustment or repairs. Of course, that meant no production.

We developed a cone-shaped bushing to fit in the cone drive. As a nut is tightened, the bushing is drawn tighter into the cone and on the shaft.

Several spares have been made in the shop so that when a cone drive begins to give trouble it is replaced with one of the new designs. So far, experience has been that once replacement has been made there is no further trouble.

We Make Our Clutch Sleeves Last Longer



HOLLOW-HEAD SCREW forms new hole for clutch-sleeve adjusting screw.

After the clutch sleeve of a C&K loom has run for a while, the adjusting setscrew cuts a hole through the sleeve. Then the loom no longer starts or stops properly because this adjustment won't hold.

I remedy this trouble by forcing a ⅜x¼-in. hollow-head screw in the hole in the clutch sleeve. I put the new screw in head first.

The cut joint of the hollow-head screw serves as a rest for the friction screw, which is put in as usual. *R. Godin, Huntingdon, P. Q.*

Best-Kink Award for November

Each month TEXTILE WORLD awards $25 to the submitter of the kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for November, according to TEXTILE WORLD reader-judges, was:

"I Get Extra Wear From Two-Position Picker Sticks"

Roberto Alderete
Santiago, Chile

Mr. Alderete is being sent a check for $25 with the compliments of TEXTILE WORLD.

make every bit of stainless count

Wise and efficient use of available stainless steel stocks can go a long way to making sure that all defense and industry needs are met.

Getting the best available materials for your job is a vital first step—Crucible, pioneers in the development of stainless steels, urges you to take full advantage of our metallurgical staff and stainless fabricating specialists. Their wealth of experience—based on thousands of stainless applications—can help stretch your stainless supply. There is no other metal that can work the same "miracles" as stainless, and these Crucible metallurgists can help you select the best available stainless grades for your needs.

It's up to you to make every bit of stainless count—we're equipped to help you do it. When your problem is stainless—call on us.

CRUCIBLE first name in special purpose steels

52 years of Fine *steelmaking*

STAINLESS STEEL

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

Protect Insulation Against Damage

SHEET-METAL JACKET for insulation may be tack-welded or bolted in place.

Ever have to replace insulation because it was broken and damaged?

Sometimes it is impossible to prevent battering of insulated surfaces when they are near stairways, ramps, or platforms.

You can protect your insulation with a sheet-metal jacket that covers the entire area of possible damage. The jacket may have spring-loaded bolts as a provision for circumferential expansion. Longitudinal expansion is taken care of by lap seams at 12-ft. intervals.

Preparatory Records Keep Tab on Warps

Customers are hard to please. Any cut of woven cloth with more than three slight imperfections is likely to be turned down. So stress must be laid on warping, because good warping helps slashing and weaving.

The warper tender should keep a close record of everything that happens to the warp while it is in process. A complete record should be kept for all sections of the warp to indicate where trouble may be expected. This record will advise the department heads of the condition of the warp and may avert costly smashes and waste.

Setscrew Helps Hold Beam Stand

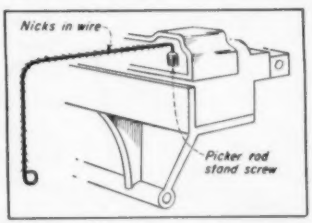
On some of the older-style woolen looms, the beam stand is adjustable for various lengths of warp beams. Some loomfixers put a block of wood between the loom side and the beam stand to hold the stand in place so that the warp beam will not slip out and cause weaving imperfections.

A better method is to drill and tap a 7/16-in. hole in the loom side and use a long setscrew with a check nut. After the warp beam is placed in the loom, tighten the setscrew so that the beam stand has a positive stop. This screw will prevent the beam from slipping out. *Wallace C. Gray, Lincoln, Me.*

Don't Mix Waste

You can keep thread waste separate from clearer waste by putting small thread-waste boxes on the post above each clearer-waste can. This makes it easy for the spinner and also keeps the two types of waste separate. *Avondale Sun*

Prevents Jerked-In Filling

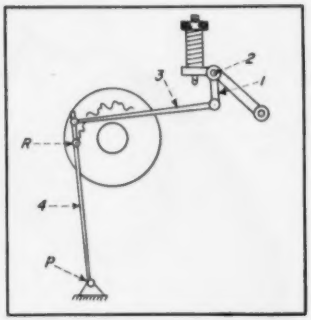


HARNESS WIRE is used to make this device for jerked-in filling.

In weaving certain kinds of fine fabrics in which the warp yarn contrasted sharply with the filling, we found it impossible to remove drag-ins without leaving a light mark on the fabric. So we had to eliminate the jerked-in filling. We have C&K W-3 looms.

All we did was take a piece of harness wire about 16 in. long and bend it as shown in the sketch. We cut a few small nicks in the wire to catch the filling cut by the knife and hold it out of the way. *R. Godin, Huntingdon, P. Q.*

Here's How We Check Evenness of Tricot Feeding



You can easily find out whether your tricot machine is feeding properly or not by using this simple recording device.

Attach a small rod *1* to the axis that supports the tension bar 2. Two slender rods *3* and *4* are mounted as shown and pivoted at *P*.

If you put a piece of paper on the side of the warp beam and a ball-point pen at *R*, then you'll get a curve that shows these things:

1) length of warp used

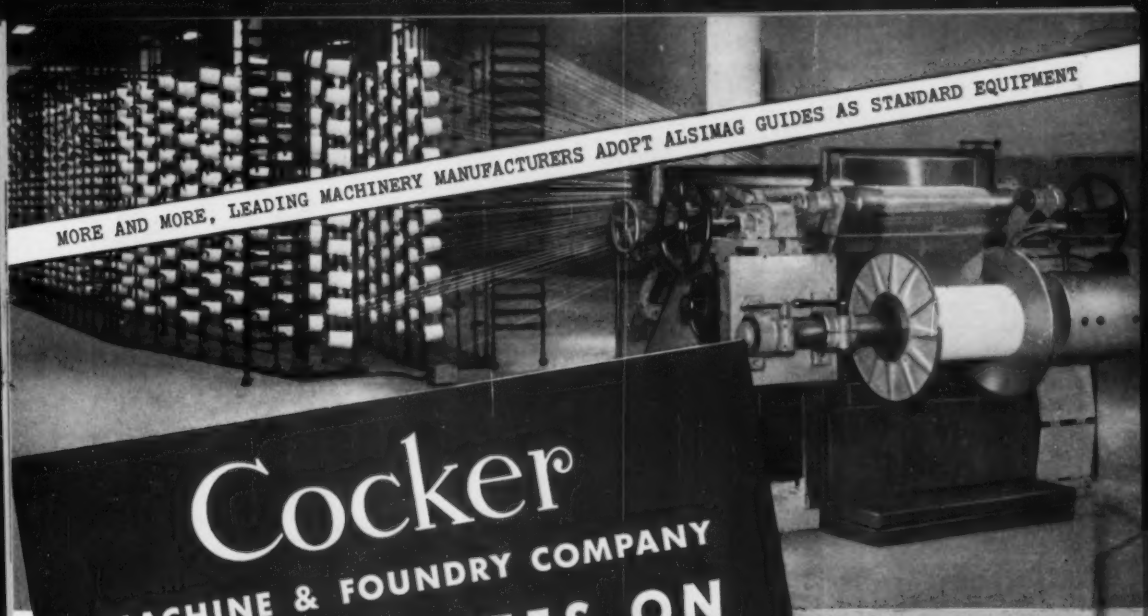
2) evenness of feeding. ***Minoru Uno, Japan***

When You Handle Ammonia, Breathe Through Your Mouth

One of the most bothersome aspects of handling ammonia, certain volatile acids, and some relatively harmless volatile solvents is the way they make a person's eyes smart and bring on a flood of tears. In such atmosphere, if you breathe through your mouth, you may remain in action with many types of fumes for much longer periods of time than if you breathe through your nose.

When you breathe through your nose, you get watery eyes because irritation is set up in the moist passages of the nose and sinus.

Mouth breathing requires concentration because it is not a normal function. It is usually necessary to open your mouth rather widely and keep it that way during the entire period of exposure. Otherwise, you may unconsciously lapse back to normal nose breathing and quickly lose all the benefits of your initial efforts.



MORE AND MORE, LEADING MACHINERY MANUFACTURERS ADOPT ALSIMAG GUIDES AS STANDARD EQUIPMENT

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• Operating at speeds of 300 and 600 yards a minute on various types of yarn, Cocker has found that AlSiMag Guides give exceptionally long service without being cut by the yarn. Cocker also reports that AlSiMag 193 tension posts, properly grounded, are a deterrent to static.

AlSiMag guides are extremely hard. They are homogenous. Wear is very gradual, simply reveals new surfaces of the same character as the original. There is no surface skin to wear through and damage the yarn.

Mill after mill has found that AlSiMag guides are far lower in cost per pound of yarn processed. Many instances are reported where these AlSiMag guide costs are less than one-twentieth of former guide costs.

You can prove this for yourself. On request we will send you samples from our file without charge. Or we will custom make test samples to your own design at moderate cost. Your own tests will show you that you can speed your processing, have less down time, improve your quality, and save money with AlSiMag guides.

COCKER MACHINE & FOUNDRY COMPANY, GASTONIA, NORTH CAROLINA, carries these AlSiMag guides in stock for immediate shipment. The same guides may be ordered from American Lava Corporation, Chattanooga 5, Tennessee, for shipment after normal production intervals.

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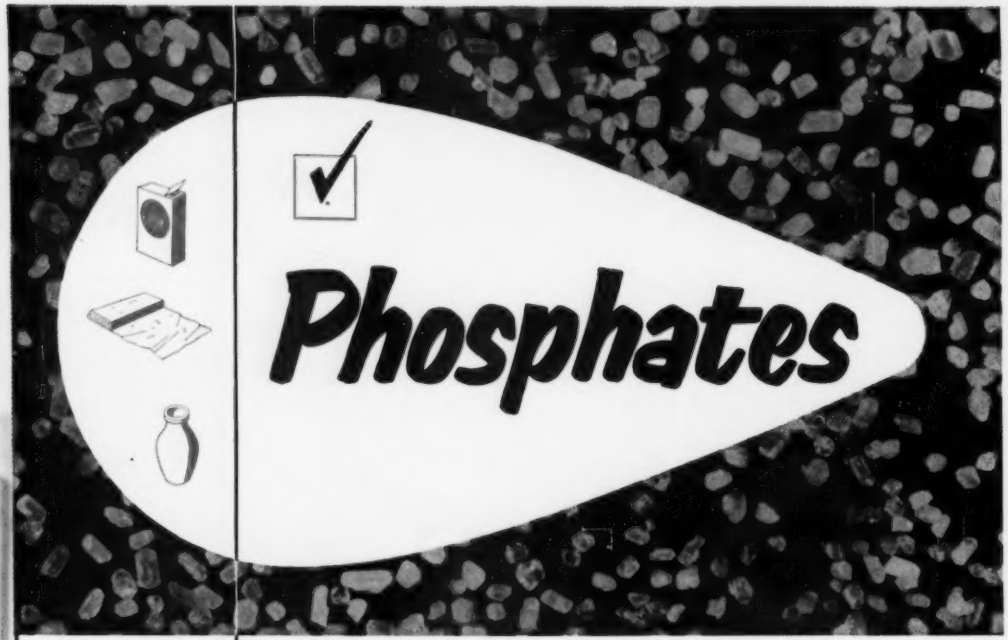

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TRISODIUM PHOSPHATE $Na_3PO_4 \cdot 12\ H_2O$ (TSP)	Flake Coarse Medium Standard Fines	Multiwall paper bags, net wt. 100 lbs. Fiber drums, net wt. 100 lbs.; 375 lbs. Bulk car shipments
DISODIUM PHOSPHATE, Anhydrous Na_2HPO_4	Flake	Multiwall paper bags, net wt. 100 lbs. Fiber drums, net wt. 100 lbs.; 280 lbs.
	Powdered	Multiwall paper bags, net wt. 100 lbs. Fiber drums, net wt. 100 lbs.; 400 lbs.
SODIUM TRIPOLYPHOSPHATE, Anhydrous $Na_5P_3O_{10}$	Powdered Granular	Multiwall paper bags, net wt. 100 lbs. Fiber drums, net wt. 400 lbs. Bulk car shipments
TETRASODIUM PYROPHOSPHATE, Anhydrous $Na_4P_2O_7$ (TSPP) (Pyro)	Powdered	Multiwall paper bags, net wt. 100 lbs. Fiber drums, net wt. 100 lbs.; 400 lbs.
	Granular Diamond	Multiwall paper bags, net wt. 100 lbs. Fiber drums, net wt. 100 lbs.; 350 lbs. Bulk car shipments

For further information on General Chemical Phosphates, consult the nearest Company office serving you.

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Outstanding TRADE LITERATURE
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NO REPEATS . . . Listed here for January are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

An automatic pirn winder with winding speeds up to 13,000 rpm. is described in a leaflet issued by W. Schlafhorst & Co. Each machine has twelve winding units, and there is only one cam on the whole machine. **(F-1)**

Cone and cheese winding is the subject of another bulletin from Schlafhorst & Co. Maximum winding speed is 1,300 yd. per min. The machine has self-threading tensions, clearers, and detectors. **(F-2)**

A measuring and inspecting machine that has an entirely new type of back-lighting box is the subject of a folder put out by Hermas Machine Co. Speed range of the GC-20 machine is from 17 to 150 yd. per min. Another bulletin from the company pictures and introduces its staff. **(F-3)**

A 12-head twister-buncher used in the production of small sizes of twisted or bunched wires is described in a brochure from Haskell-Dawes Machine Co. **(F-4)**

AUXILIARY EQUIPMENT

Testing machines of many types are presented in a catalog prepared by Testing Machine, Inc. Practically everything is included—from A to Y, Abrasers to Vapometers. Equipment from many manufacturers is handled by the company. **(F-5)**

Color measurements of samples external to the instrument are discussed in a folder prepared by Industrial Development Laboratories, Inc. This new method of using Color-Eye is for fabric examination on bolts or rolls, for materials that can't be heated, for large samples, or for matching materials under ordinary daylight. **(F-6)**

Recorders and controllers for pH and conductivity are covered in a new catalog issued by Minneapolis-Honeywell Regulator Co. Included are fundamental operating principles, descriptions of measuring systems, details of components, and typical applications. **(F-7)**

Multimotor slasher drives are giving more production of better cloth at less handling expense, according to a bulletin made available by Westinghouse Electric Corp. Both hot-air and cylinder slashers can be served by the modern control system. **(F-8)**

Faster, more accurate weighing is said to be possible with an improved balance described in a folder from Fisher Scientific Co. You can dial the weight in 20.7 sec. after only ten practice weighings, according to the company. **(F-9)**

The universal wear tester developed by Dr. R. G. Stoll for the QMC is described in literature released by Custom Scientific Instruments, Inc. Just about all kinds of fabrics, coatings, films, etc., can be tested by the machine for surface abrasion, flex abrasion, edge abrasion, flexing, and folding. **(F-10)**

Measuring daylight and recording the intensity is the job of a device described in a leaflet issued by Leeds & Northrup Co. With this recorder, you have a method of finding out just what kind of weather your roof samples were subjected to. **(F-11)**

Transmission of information and controls for unlimited distances over a 2-wire electrical circuit are described in a bulletin issued by Builders-Providence, Inc. The Chronoflo Telemeters discussed can measure flow of liquids and gases through venturis, nozzles, or orifices. There are many other applications, too. Use the Reader-Service postcard and mark **(F-12)**

Measuring circuits used in their potentiometers are described in a bulletin from Minneapolis-Honeywell Regulator Co. Second of a series, the publication gives limitations, calculations, variations, and the like. **(F-13)**

Get rid of the belts. That's the advice given in a folder on cotton-card drives from Westinghouse Electric Corp. A choice of three motors is given, and there is a controller specially engineered for the job. **(F-14)**

Self-operated controllers for temperature and pressure are the feature of a new bulletin published by Taglabue Instruments Div., Weston Electrical Instrument Corp. Control ranges vary from as low as 20 to 60° F. to as high as 255 to 300° F. The steam, air, water, or other media furnishes the motive force for the controllers. **(F-15)**

SUPPLIES AND CHEMICALS

A new sulfone for dyestuff and other syntheses is described in a booklet prepared by Monsanto Chemical Co. The

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Reader Service (Continued)

product, diamino diphenyl sufone, can be used as an intermediate in organic synthesis, as a base for ion-exchange resins, and in the synthesis of azo dyes. **(F-16)**

Two naphthenates to protect cellulosic materials against mildew, rot, and fungus damage are featured in a booklet issued by Naftone, Inc. The products are derivations of copper and zinc. **(F-17)**

Latest in the series of technical bulletins from American Cyanamid Co., Calco Chemical Div., is "Application of Vat Dyes to Piece Goods." Included are dyeing, padding, reduced-padding methods, pigment padding, vat-acid methods, and high-temperature, continuous processes. **(F-18)**

Weighty problems, these roll weights. But you can get some help from a little booklet put out by Dixon Lubricating Saddle Co. The folder has an offer for a free roll-setting rule, too. Incidentally, do you know why antifriction top rolls tend to "ride back" more than solid top rolls? **(F-19)**

Revisions for their abstract of government specifications on fungicides are available from Nuodex Products Co., Inc. Additional specifications and modifications of existing specs are given. **(F-20)**

Dyeing of wool with vat colors—particularly the anthraquinone types—is discussed in a bulletin made available by National Aniline Div., Allied Chemical & Dye Corp. **(F-21)**

Five self-emulsifying wool oils are described in a bulletin published by Socony-Vacuum Oil Co., Inc. These fluid products are said to be compatible with Syton or Ludox. A chart is given to help you select the most economical wool oil, depending on the factors involved. **(F-22)**

Four substantive softeners for new effects and new finishes are discussed in a folder from Dexter Chemical Corp. The four are for (1) non-yellowing and light fastness, (2) compatibility with anionics, (3) non-yellowing, light fastness, and compatibility with anionics, and (4) cationic hand only. **(F-23)**

Among the new dyeing techniques discussed in a recent booklet from E. I. Du Pont de Nemours & Co., Inc., are the cuprous-ion method of dyeing Orlon, pressure dyeing, dyeing of Dacron, and the pad-steam continuous-dyeing process. **(F-24)**

Is vat dyeing an art? Not any more, according to a booklet published by Minneapolis-Honeywell Regulator Co. The Redox method—measurement of the oxidation-reduction potential—is responsible for the statement. To read more about it, send for **(F-25)**

Seven specialized lubricants that cover most plant requirements are featured in a bulletin prepared by Keystone Lubricating Co. Products covered are for bearings, gears, speed reducers, and for cleaning, loosening, and penetrating. **(F-26)**

"Monoglycerides Finding Wider Uses in Industry" is the title of a reprint made available by Glyco Products Co., Inc. Textile applications are included, as are methods of manufacture and the varying compositions available. **(F-27)**

Bronze and aluminum powders for textile printing are described in a booklet published by Atlantic Powdered Metals, Inc. Information on application of other metallic powders to fabrics is also available. The bronze and aluminum powders are used for gold and silver prints. **(F-28)**

Properties and known applications for a new commercial product, their 955 dimer acid, are given in a bulletin published by Emery Industries, Inc. It is claimed that ethoxylated derivatives of bisalykyloi amides of dimer acid are valuable assistants for metallized dyeing. **(F-29)**

ENGINEERING AND MAINTENANCE

Interested in metallizing? There's a new bulletin out. It describes a new gun for

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Reader Service (Continued)

high-speed spraying with all metals. Issuer of the booklet is Metallized Engineering Co., Inc. Low-cost operation with minimum maintenance is claimed. **(F-30)**

"Fog disappears when you warm it. A textile mill doesn't warm it, it fries it." This quote will give you an idea of the basic nature of the humidity discussion given in a recent issue of *Park's Parables*. You'll enjoy reading this booklet, which describes an installation at Fall River, Mass. **(F-31)**

A four-purpose carriage is provided on the fork truck described in a bulletin released by The Baker-Raulang Co. The new attachment provides for (1) standard fork use, (2) clamp action (3) fork spacing, and (4) side-shifter action. **(F-32)**

Automatic sprinkler protection for high-piled combustible storage is discussed in a bulletin from Factory Mutual Engineering Div. Improved types of sprinklers, and a distributing chart of water from them are included in the publication. **(F-33)**

Steam generators for heat or process steam, in sizes from 20 to 600 bhp., are presented in a catalog issued by Superior Combustion Industries. Subjects covered include induced draft, dry steam, design, and fuels. Graphs and tables provide engineers with essential data, dimensions, and test results. **(F-34)**

"Planned purity" water is the subject of a folder published by Penfield Mfg. Co., Inc. For boiler feed, process, and other industrial needs, good water is said to decrease rejects, lower costs, increase production, and improve processing. **(F-35)**

Of great value to anyone interested in materials handling is the new booklet made available by Yale & Towne Mfg. Co. Called "The How Book of Cost-Cutting Materials Handling," the book was written under the guidance of Dr. V. S. Karabasz, Prof. of Industrial Management, Wharton School, University of Pennsylvania. **(F-36)**

A paint-anchoring phosphate treatment for metals is described in a booklet issued by Octagon Process, Inc. The product, Anchorite, is one of the few prepainting treatments that meets specifications for Class C (Type II) finish in Army and JAN specifications. **(F-37)**

Trap selection by the Btu. and condensate methods is covered in a bulletin issued by Armstrong Machine Works. Also covered: trap selection for heaters operated at constant and variable pressures, Btu. rating for 30 heaters, and installation practice. **(F-38)**

A new flooring repair and resurfacing material is described in a bulletin prepared by Paramount Industrial Products Co. The mix, Flinthard, comes ready-mixed and is reputed to be four times stronger than concrete. It's for concrete floors, in and out. **(F-39)**

Photographs are used to strip down a new fork truck in a bulletin from The Baker-Raulang Co. The new model, a 2,000-lb. job, is said to drive like your family car. **(F-40)**

Construction of totally enclosed, fan-cooled motors is described in a new bulletin released by Allis-Chalmers Mfg. Co. Internal air passages and dirt-catching pockets have been eliminated. Non-ventilated motors of the same basic design are also available. **(F-41)**

Floor-level handling of materials is something you should consider, says a bulletin from Barrett-Cravens Co. Electric high-lift fork trucks of both rider and "walkie" types, platform trucks, and several types of tractors are catalogued. **(F-42)**

Man-hour costs were cut 71% at one of their cotton installations, according to a bulletin issued by Towmotor Corp. Big pictures show how bales are handled in and out of freight cars, on receiving platforms, and in storage. **(F-43)**

Selection of conveyors, trucks, and industrial casters is made easy with a

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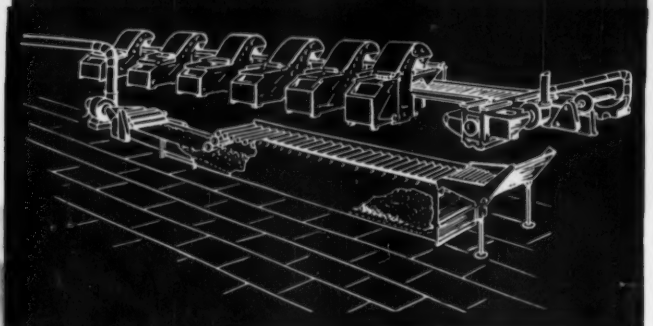

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Reader Service (Continued)

catalog published by The Rapids-Standard Co., Inc. Hundreds of pictures show how each piece of equipment works and what type of material it will handle. **(P-44)**

Coal- and ash-handling equipment for power plants is described in a book put out by Link-Belt Co. Both large and small installations are shown. Lots of ideas are presented. **(P-45)**

More than 150 attachments and accessories for lathes, drill presses, and shapers are shown in a catalog issued by South Bend Lathe Works. Several new items, never before announced, are included. **(P-46)**

GENERAL

Noisy? The problem of industrial noises and their control is the subject of a new pamphlet issued by Industrial Acoustics Co. Along with principles of noise measurement, the booklet tells how noises are related to our ears. **(P-47)**

A super souper—a vacuum-insulated profitable hot-soup conveyor—is described in a leaflet presented by Vacuum Can Co. The can can also be used for stew, chili, macaroni, beans, or any single hot food. Capacity is 3½ gal., or about 60 portions of soup. **(P-48)**

In-plant feeding is completely covered in a bulletin from Slater System, Inc. Well-illustrated, it explains the types of food service employed to fill various feeding requirements. **(P-49)**

"A simple lunch room—even coffee and sandwiches—is better than nothing," says a manual from Crotty Bros., Inc. You can compare your operation against an ideal by using a handy checklist that's included. **(P-50)**

Mass. Textile Decline

(*Continued from page* 157)

5. **Women on Third Shift**—The laws affecting the employment of women between 11 p.m. and 6 a.m., and thus possibly affecting three-shift operations in Massachusetts, when three shifts can be depended on in competing States, should be modified so that mills can count on three-shift operation if necessary. However, satisfactory working conditions should be assured under proper safeguards, together with sufficient time off for eating or rest. A special, impartial commission should be appointed to study this situation.

6. **Industrial Legislation** – There should be a moratorium on further legislation not immediately necessary that affects Massachusetts textile costs unfavorably, until other States have "caught up."

7. **Specialization of Product** – It seems clear from the evidence that the types of textile products in Massachusetts with the best chance of success are (1) fabrics of rayon, other synthetics, and blends, especially when low-priced highly competitive volume products are avoided, (2) in combed-cotton goods, and (3) on specialty products where there is a premium on new ideas, and where prices are not determined too much on a cost basis.

Questions AND Answers

Card-Clothing Life Is Changed By Nylon

Technical Editor:

What is the life expectancy of card clothing when nylon is being carded? How does this data compare with similar clothing used for wool alone? (9480)

This question cannot be answered specifically, but here are some general conclusions that may help you.

If you're running nylon on metallic card clothing, the clothing life will be about 70% shorter than when you are running wool, according to one authoritative estimate.

On fillet card clothing, the life seems to depend on the way you run the machines and the type of wire you select. Nylon calls for stronger wire than wool. If you just change from wool to nylon and don't make any changes in your card, you can expect the wire to be completely ruined in about a year.

However, if you use double-convex wire of the proper count and crown and with a proper foundation, and if you have a garnett breast to open up tangled fibers, and if you don't try to run your cards too fast—the clothing should last as long for nylon as it does for wool.

Pleated Nylon Fabric Made on a Jersey Machine

Technical Editor:

Is it possible to make a pleated nylon fabric on an FNF silk jersey (lock knit) warp-knitting machine? The fabric is to be used in ladies underwear. (9481)

Yes, you can make such a fabric with a plain jersey pattern. The pleating is done later in a special process that sets the thermoplastic nylon fabric and gives it permanent pleats.

Raising a Nap Is a Ticklish Operation

Technical Editor:

We are producing a fabric with a solid worsted ground and extra woolen filling. Can you give us any information about raising the nap so that a clear furrow results? The extra filling must be entirely

Something Really New in

PRINT GOODS AGING

is yours with a

PROCTOR LOOP AGER

You just can't keep the lid on something good. Not a word has been said in print about the new Proctor Loop Ager that went into operation some months ago—and yet textile finishers are already beginning to inquire about it. It's little wonder—for here is something that is really new in print goods aging. Designed for aging vat colors on print goods, this new ager is a compact, loop type machine, incorporating all features essential to good aging—including the maintenance of a virtually air-free atmosphere. Useful in handling a wide range of goods from very light fabrics to heavy drapery materials, it provides production of approximately four times that of previous machines per man hour. Floor space per yard of cloth processed is one-half that previously required. The danger of water spots, mark-off, and broken selvages common to other types of agers, has been eliminated. During the critical part of the aging cycle the printed face of the cloth is not in contact with rolls or other supports and is uniformly exposed to the steam atmosphere. For more complete information write today.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

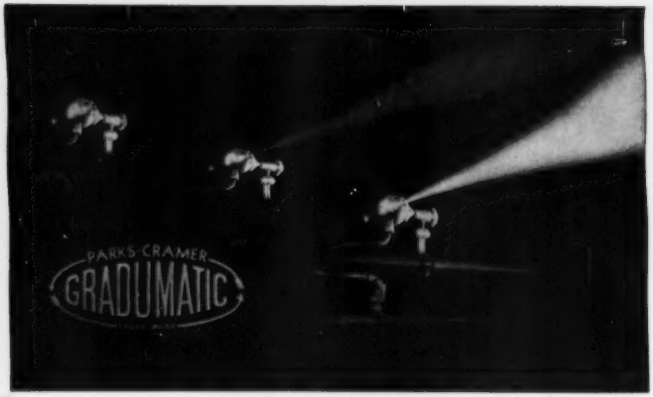
AN INVITATION TO PATENT HOLDERS

Have you patented equipment which you have developed for your own line of business that you would care to have developed, manufactured, or sold? If such equipment comes within the line of our manufacturing and selling experience, we would be pleased to have you contact us. We will discuss the matter with you without obligation. If there seems to be a mutual advantage we may be able to realize good returns on new developments.

PROCTOR & SCHWARTZ • INC •

710 TABOR ROAD • PHILADELPHIA 20 • PA •

Designers and Manufacturers of Automatic Blending and Stock Conveying Equipment • Carding and Garnetting Machines • Dryers for Stock • Yarn Piece Goods • Nylon Setting



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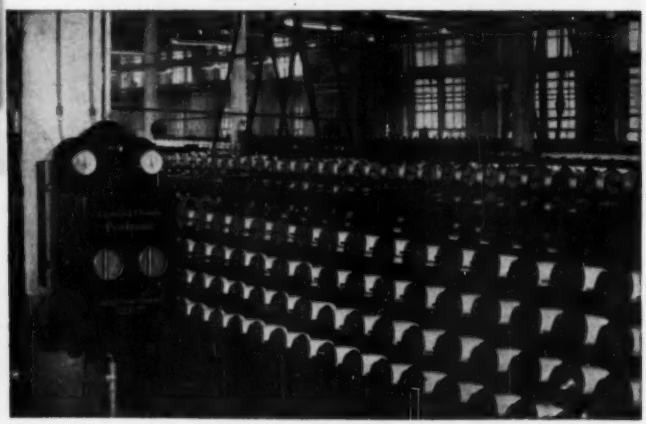
Gradumatic Humidification

Controlled by the improved Certified Climate Psychrostat, Gradumatic Humidifiers operate continuously whenever moisture is needed.... A mere breath from each atomizer (as little as 2 pounds per hour) *at any time*, or as much as 16 pounds of fog-like vapor from each atomizer, if needed, *some of the time*. But Gradumatic humidification *all the time*.



Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

Questions and Answers

(Continued)

raised and torn to achieve the proper effect.

We are also having trouble finishing this fabric. Are there machines made especially for this work? (9482)

You've got a knotty problem here. Considerable experience is necessary to finish a fabric of this sort.

After burling and mending, the usual method is fulling and washing to secure the required shrinkage. Some finishers roll two pieces together, after extracting, and let them set overnight before the napping operation. Different fabrics require a different number of runs through the napper. Experience will also show just how much energy is required to produce a fine, close nap.

Some mills use teasel gigs in place of nappers. This process is slow, but it produces a very smooth nap on the fabric.

You've also got to be careful in shearing. Taking off too much in the first run may produce a choppy appearance.

The finishing-machinery manufacturers make machines for all kinds of finishes and also build custom machines for special fabrics. Consult them if you hit a stone wall in progress with your own machinery.

Designing Knitting Patterns

Technical Editor:

Are there any books on designing patterns for spring-needle knitting machines? (9484)

There has been very little written on this subject, as far as we can find out. One source of information, though, is Section J of a General Information Book issued by Tompkins Bros. Co.

These back issues of TEXTILE WORLD may also help you: Jan., Nov., 1938; Feb., Mar., April, June, 1939; and April, 1941.

Drag on Twister Bobbins

Technical Editor:

Are there any calculations that show the difference in drag on a double-headed twister bobbin?

We'd like to know more accurately just what the drag is at the following places:

1. **Top of the bobbin, next to wood**
2. **Bottom of the bobbin, next to wood**
3. **Top of the bobbin, full**
4. **Bottom of the bobbin, full (9485)**

We haven't been able to locate any calculations, but here are some test results that may help you.

This information was obtained with 2/50s worsted yarn (filling) on a

SEE SUPREME'S SUPER-RIBBER ADVANTAGES

Through A Knitter-Mechanic's Eyes

★ **GIVES MULTI-MACHINE PRODUCTION WITHOUT "KNOCKING ITSELF OUT"**

Up to 56 Yards Per Hour from a *single* machine . . . Max. feeds per diameter inch means profit boosting production without machine-busting rpms. Less wear — less downtime — longer machine life.

★ **SIMPLER TO RUN AND MAINTAIN**

Flip-of-the-finger stitch adjustment . . . Open, easy-to-get-at knitting system . . . Individual, channeled cams —no chance of smash-ups . . . Direct, convenient, man-to-machine controls . . . Foolproof synchronization of dial to cylinder needles . . . Easier for new, inexperienced operators.

★ **HAS QUICKEST, EASIEST, SWITCHOVER FROM PLAIN TO SWISS RIB**

Exclusive, new method eliminates changing cams — gives immediate switch.

★ **KNITS "SUPER ELASTIC" QUALITY RIB CLOTH FROM PRACTICALLY ANY YARN**

Handles wide range and variety of yarns with minimum adjustments. Minimizes damages from weak or slubbed yarns. Uniform, high elasticity gives better size and shape retention. Dogless—no pinch lines.

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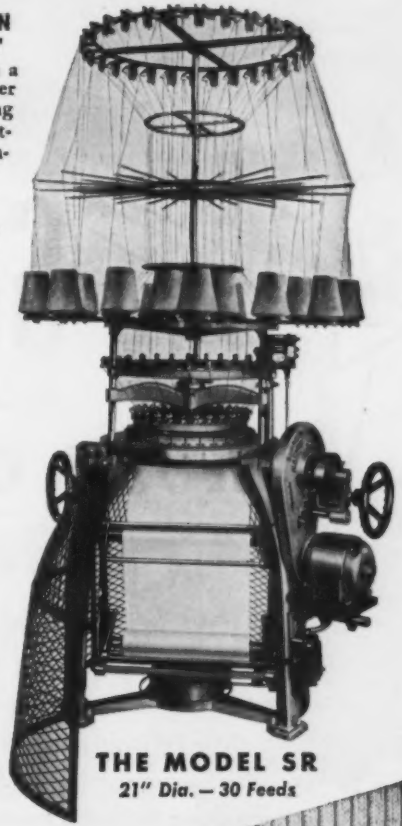
Sturdy, tripod construction . . . Trouble-free design and anti-wear engineering . . . Stationary Yarn Stand . . . Revolving, floating take-up and roll-up . . . Rugged, smooth-running unit motor drive. Patented multi-disc clutch . . . Starts easy . . . Stops fast.



THE MODEL SR

21" Dia. — 30 Feeds

The Supreme Model SR is available in a complete range of sizes from 7"— 10 feeds to 30"— 84 feeds. For further details, write for free folder.

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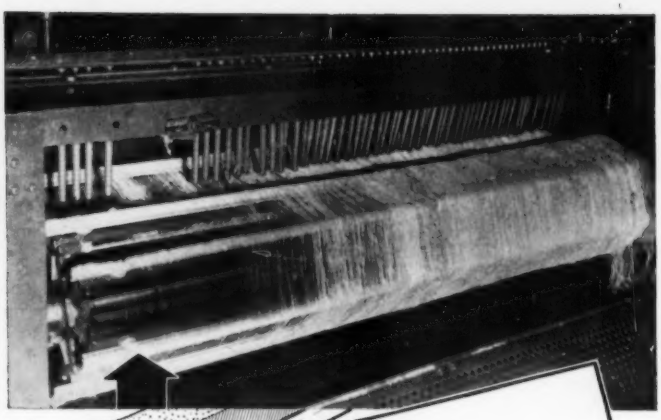

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TWICE THE BRUSH LIFE WITH FULLERGRIPT

If you use a Terrell Type L Bobbin or Quill Stripper you'll find that Fullergript brush strips will give you at least twice the wear that you get from wood-back tufted brushes. Fullergript strips, because they are packed with a continuous mass of dense brush material do not press down like tufted brushes. And because of the dense packing the brush is stiffer — hence, it catches the yarn better. The brush material is locked in a metal channel and will not fly out. Fullergript strips are easy to install on a Type L Bobbin Stripper Reel. For complete details, write today to . . .

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THE FULLER BRUSH CO., INDUSTRIAL DIV., 3594 MAIN ST., HARTFORD 2, CONN.

Questions and Answers

(Continued)

Whitin Model-R twister with 11-in. traverse and 4-in. ring.

The diameter of the paper tube used was 1⅞ in., and the spindle speed was 8,000 rpm.

The gram pull was measured with a tensometer. Here are the results:

Empty bobbin	60 to 68 (grams)
¼-full	52 to 62
½-full	45 to 58
¾-full	44 to 55
Full bobbin	42 to 54

It is our understanding that Whitin is developing an electrical device to measure the gram pull. The device will be described in TEXTILE WORLD when the company announces its completion.

Check Knotter If Your Knots Slip

Technical Editor:

We are using mechanical knotters to tie a weaver's knot in our 6-in. staple rayon yarns of 14s to 60s single linen counts. Can you tell us how to prevent the knots from slipping during warping? (9486)

A weaver's knot properly tied with a mechanical knotter on spun yarn should not slip open at warping. It would seem that if slippage occurs during warping, when the tension is comparatively low, the knotters are in need of adjustment, either to tighten up the knots or to provide longer tails.

When you have fairly fine linen counts, it is comparatively simple to adjust the mechanical knotter to obtain satisfactory results. However, with coarse linen counts, such as 14s, the problem of knotter adjustment becomes more complicated. We suggest that you train the operators to occasionally pull on their knots to make sure that good work is being turned out.

Many Uses In Textiles For Copper-Based Chemicals

Technical Editor:

Are any copper-based chemicals used in the textile industry? If, so, how and where are they used? To what extent are they used? (9490)

Copper salts, both organic and inorganic, are used extensively in the textile industry. Copper sulfate, for example, is used by a number of plants that have their own water supply to keep down algae formation in storage basin or reservoirs. This same chemical has also been used for years in the after-treatment of certain direct-dyeing colors to improve their wash

Let a MICRO SWITCH engineer show you how you can **"use MICRO Precision Switches as a principle of good design"**

Warner & Swasey find MICRO Precision Switches aid "good design" of textile machinery

Warner & Swasey, Cleveland, builders of top-notch equipment for the textile field, recognize the importance of using only such components as enhance the good design and trouble-free performance of their machines.

Take, for instance, the Warner & Swasey-Pacific Converter—the fabulous machine which cuts synthetic fibers, blends them with wool or with other synthetic fibers to form crimped "sliver," ready for further processing. Its successful operation demands sensitive control at the delivery end by extremely accurate and dependable precision switches . . . so, quite naturally, Warner & Swasey engineers selected MICRO snap-action precision switches, possessing the required special characteristics for their purpose. How faithfully these MICRO precision switches perform their essential function over a lifetime of daily operation is common knowledge among users of the Converter.

Whatever your switching problem may be . . . if it involves precision-switch operation, you and your plant operating people should know how MICRO snap-action precision switches can improve the operation of your equipment. Call or write the nearest MICRO SWITCH branch office.

Warner & Swasey-Pacific Converter which uses two MICRO precision switches in control box (under light) for sensitive controls at delivery end of the machine.

MICRO MS SWITCH

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MICRO Snap-Action Switches . . . Honeywell Mercury Switches

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Insure Uninterrupted Loom Performance

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HEIM *Unibal* **SWEEPSTICK**

Heim Unibal Sweepsticks have reduced downtime and production losses in every mill where they are now in use.

The extra yardage produced through uninterrupted operation has been sufficient in every case to pay the initial cost of the sweepsticks many times over.

For smoother and softer pick action . . . for longer life . . . switch to Heim Unibal Sweepsticks.

This is the Heim Unibal Spherical Bearing which is assembled as an integral part of the sweepstick body. It replaces the usual loose fitting, oversize stud hole.

Write for prices and descriptive circular.

THE HEIM COMPANY

FAIRFIELD, CONNECTICUT

Questions and Answers

(Continued)

fastness. Recently, copper sulfate, as well as organic copper complexes, has been used to treat selected dyes on synthetic fibers to improve light and wash fastness.

Copper compounds such as copper naphthenate also have been known as effective fungicides, and organic compounds having copper in the molecule are used in large quantities to prevent rot and mildew on those fibers susceptible to attack. Cuprammonium hydrate and copper formate are used in waterproofing.

Recently, in the dyeing of some of the newer synthetic fibers, the cuprous-ion method of color fixation has proved of interest in increasing color fastness. This technique is used for the fixation of selected acid colors. On fibers such as dynel and Orlon, copper salts such as cupric sulfate or cupric acetate are reduced in the dye bath to the cuprous state by means of suitable reducing agents. The cuprous salts seem to act as a fixing agent and form a linkage between the dyestuff and the fiber.

Etched and transparent effects on certain cotton and rayon fabrics are brought about with cuprammonium hydrate, copper sulfate, or cuprammonium salts of cellulose.

You Can Make Polo Shirts —Without Sewing

Technical Editor:

Is there a knitting machine that can make a man's polo shirt in one piece—without any sewing? (9489)

What you're thinking about is a method of cutting tubular fabric. The fabric itself can be made on any standard circular jersey knitting machine. The trick is in the cutting.

The only machinery required is an attachment for the spreading machine. The method is licensed, and we'd be glad to send the name of the inventor to anyone interested.

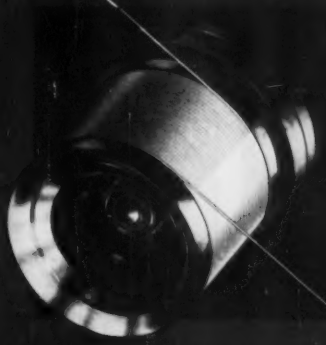
Stop-Motion Problems on Narrow-Fabric Looms

Technical Editor:

Are there any stop-motions for narrow-fabric looms? (9492)

Yes, there are several. Fletcher Works, Inc., Glenwood Ave. & 2nd St., Philadelphia 40, Pa., and Crompton & Knowles Loom Works, Worcester 1, Mass., make them.

From C&K we have learned that they make a warp stop motion and a predetermined pick counter that stops the loom after a specified num-



as new today as the day it first appeared!

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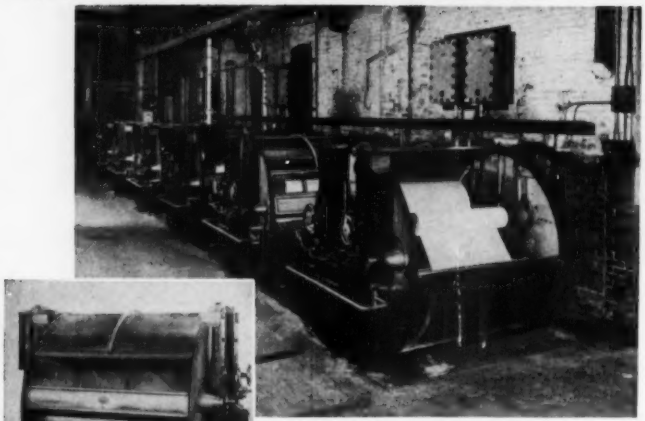
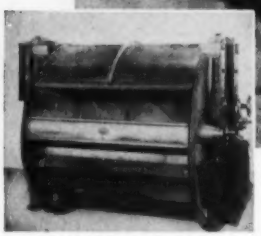
NOW – for Better, Faster Dyeing of Synthetics with GLASCO DYE JIG ENCLOSURE





Enclosure in closed position

This enclosure now makes it possible to maintain controlled mean temperature throughout dyeing time of Nylons, Acetates and other Synthetics.

As a consequence, dyeing time is shortened. Uniform stripping is assured in redyeing or changing the color of a fabric. Chrome blues and other difficult colors can be jig-dyed. Colors are well dispersed, and level dyeing without shifting is possible. In soaping, temperature is prevented from rising too high and so causing a dull finish. Steam and water are saved.

Other advantages:

New design of hood saves space—no overhead obstructions, roller doors on bearings swing down and under jig when open—minimizes dripping—prevents steam blast toward operator when hood is opened—no cables, chains, counterweight posts to obstruct. Jig enclosure can be fitted to any jig—note big windows for easy observation of interior when jig is closed.

Manufacturers of modern, custom built metal equipment for wet processing uses, including Dye Jig Enclosures, Dye Tubs and Becks, Wash Tubs, etc. of stainless steel and other metals that resist corrosion under most alkali and acid conditions.

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Pioneer Fabricators of Stainless Steel Equipment

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Charles L. Niles Company, Boston

North Carolina
Odell Mill Supply, Greensboro

South Carolina
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Questions and Answers

(Continued)

ber of picks, when the filling is nearly all gone. It is not a true filling stop motion, however, because the loom will not stop in case of a runout or a break.

Both of these stop motions need special work for adaptation to multiple-shuttle narrow-fabric looms that have a continuously running motor with a clutch.

Where To Buy a Lanameter

Technical Editor:

In order to measure wool fineness without buying expensive equipment, we would like to build a Lanameter ourselves. Do you know where we can procure a set of specifications for this device?

Is there any other way to check wool fineness quickly and accurately?

The Lanameter was originally described, but only partially in The Melliand, Vol. 1, No. 1, April, 1929. (9491)

You can buy a Lanameter direct from:

. . . Zwick & Co. KG.
(14a) Ulm-Einsingen, Germany
. . . K. Zweigle, Fabrik fur Prufapparate der Textilindustric
(14b) Reutlingen, Baumgartenweg 10, Germany

We don't know of any other method than the microscopic-projection one, which is working very satisfactorily in many mills and laboratories.

New Dyes and Chemicals

(*Continued from page 194*)

detergency readings obtained with this cloth do not change. Detergency reading is defined as brightness regain during detergent wash minus brightness regain during a control wash with plain water.

Tests indicate that this fabric gives unusually realistic comparative values for different detergents, the company states. By realism is meant correspondence of results to full-scale washings of naturally soiled fabrics in machines. Soil-removal value has been set at an intermediate range, large enough to permit accurate measurement of brightness gain during a single laboratory wash, but small enough to permit use in multi-wash tests.

Answers to Textile Quiz Appearing on Page 178

1. c. (TW, Nov., '51, p. 4)
2. b. (TW, Nov., '51, p. 110)
3. b. (TW, Nov., '51, p. 290)
4. d. (TW, Oct., '51, p. 151)
5. c. (TW, Oct., '51, p. 298)
6. a. (TW, Oct., '51, p. 4)
7. b. (TW, Oct., '51, p. 145)
8. b. (TW, Oct., '51, p. 218)
9. a. (TW, Aug., '51, p. 119)
10. d. (TW, Sept., '51, p. 161)

Booth

Originators of **STRIP-O-MATIC***

CARD CLOTHING NEWS AND VIEWS

NYLON SPINNER ENJOYS RUNS TO 9 MONTHS WITH STRIP-O-MATIC

The photograph shows STRIP-O-MATIC following 9 months' operation. There isn't any accumulation of stock.

The Wister Spinning Company, manufacturers of fine nylon yarns, had to strip every 2 to 3 weeks with conventional clothing on an 8-hour shift; with 2-shift operation weekly or oftener. Since they have clothed complete sets including cylinders and workers with ***STRIP-O-MATIC,*** they have increased the time between stripping to as much as 9 months. The carders now anticipate being able to run almost indefinitely without stripping. The only down time experienced is for grinding (about every 9 months, only half as frequently as with conventional wire). There is considerably less fibre breaking, and practically no stock loss with ***STRIP-O-MATIC.***

Research and development is continually improving ***STRIP-O-MATIC*** for carding all types of fibre including wools, blends, and synthetics. If you have tried only the first ***STRIP-O-MATIC*** manufactured you owe it to yourself to try today's new and greatly improved type. A Benjamin Booth representative will be glad to discuss your specific requirements without cost or obligation.

The Booth Company's card clothing experts stand ready at all times to help you solve your carding problems. *Patented (R)

BOOTH REPRESENTATIVES OFFER FAST CARD CLOTHING SERVICE

STRIP-O-MATIC and other famous Booth card clothings are available in all major textile areas through these Booth representatives or sales offices:

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NEW ENGLAND
Benjamin Booth Company
J. W. Scott
211 Bruce Street
Lawrence, Mass.

NORTH CAROLINA-SOUTH CAROLINA
Oliver D. Landis, Inc.
718 Queens Road
Charlotte 7, N. C.

CANADA
W. H. Martin Company
367 Cannon Street, East
Hamilton, Ontario

MID-ATLANTIC STATES
MID-WESTERN STATES
Benjamin Booth Company
Norman Aderhold
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Sincerely yours,

E. Allen Snape Jr

PRESIDENT

Established 1892

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BENJAMIN BOOTH COMPANY, ALLEGHENY & JANNEY STS., PHILA., PA.

Alabama By-Products Corporation to Make More Coke and Coal Chemicals

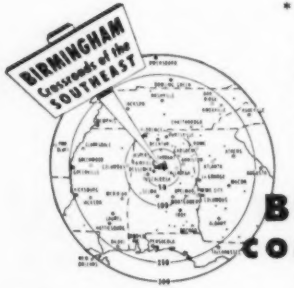
to Meet Southeast's Fast Growing Demands

ALABAMA BY-PRODUCTS CORPORATION of Birmingham—one of the Nation's largest commercial coke producers—is now rushing to completion the fifth expansion program in its history. Because of the tremendously increased demand for coke from the Southeast's flourishing foundry trade, the Company is building a new battery of coke ovens which will bring its capacity to over 900,000 tons a year. It is likewise stepping up the output of its coal chemicals and by-product gas.

"Our large expansion program helps assure an ample supply of quality coke for the Southeast's fast growing malleable and grey iron industry," says Phil H. Neal, president of ABC. "Capacity of our plant has been increased more than fivefold since our Company was organized. Biggest factor in our growth has been the broad-scale industrial development throughout the Southeast. Another is Birmingham's superior location as a distribution center—not only for the whole Southeast but for all the 31 States we serve and our export markets in Canada, Cuba and Mexico."

ABC is one of scores of Birmingham district enterprises that have spiraled from small beginnings into nationally known industries. New plants will find even greater growth opportunities because of the accelerating progress of the South. Stake your claim now.

* * * * * *



The Committee of 100 or any of the undersigned members of the Executive Committee will welcome the opportunity to give you confidential and specific data regarding the advantages of the Birmingham district for your plant, office or warehouse.

BIRMINGHAM COMMITTEE OF 100

1914 Sixth Ave., N., Birmingham, Ala.

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Books of Interest

Cotton Manufacturing Problems Discussed

TEXTILES—A DYNAMIC INDUSTRY, by E. C. Bancroft, W. H. Crook, and William C. Kessler; Dept. of Economics, Colgate University, Hamilton, N. Y.; paper, mimeographed, 308 pages, $5.

This Colgate University survey is an excellent spotlighting of a few of the problems and trends facing cotton-textile manufacturers today, and as such can be read with value by every textile man.

The work is broken down as follows: 44 pages on an outline history of the American industry; 43 pages on the problems of textile fibers; 66 pages on the growth of eight companies (Avondale, Bates, Graniteville, Pepperell, Powdrell & Alexander, J. P. Stevens, United Merchants & Manufacturers, and Wamsutta); 21 pages on the New England textile-manufacturing dilemma; and 19 pages on corporate competition and integration.

Other facets of the industry covered by the survey are the status of the Southern mill village (11 pages); work-load changes (24 pages); labor-management relations (28 pages); inter- and intra-union conflict (20 pages); and the North-South wage differential (18 pages).

A Union Study Of Job Assignment

WORK DUTY CHARTS FOR TEXTILE OPERATIONS, A Checklist of Job Content and Equipment, by Solomon Barkin and Franklin G. Bishop; Textile Workers Union of America CIO, 99 University Place, New York 3; paper, mimeographed, $2.

This ⅜-in.-thick volume is part of a job primer being prepared by the research department of TWUA for textile workers, shop stewards, and union business agents. Job-analysis information and techniques are presented in an attempt to give ordinary employees an evaluation of work assignments and rate problems.

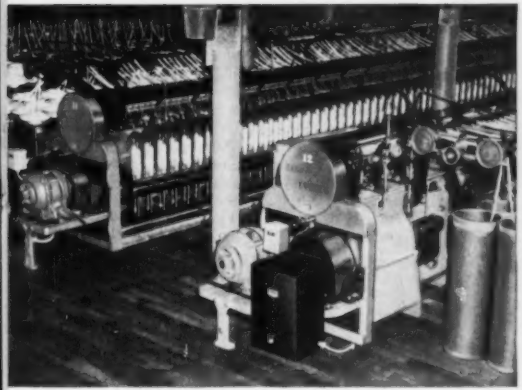
Employers interested in getting better acquainted with union-worker approaches and views on job-assignment problems will want to see how work-load studies are being pursued by one union at least.

Building Morale As a Supervisor

HUMAN RELATIONS IN SUPERVISION, by Willard E. Parker and Robert W. Kleemeir; McGraw-Hill Book Co., 330

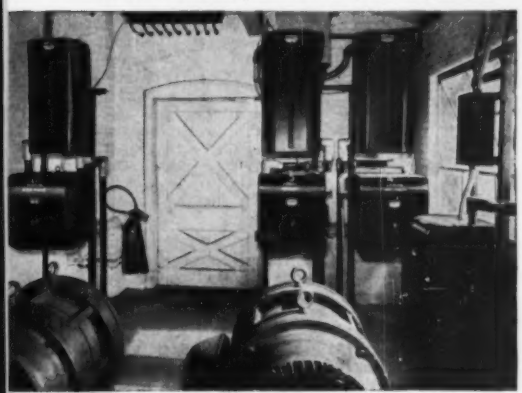
CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY

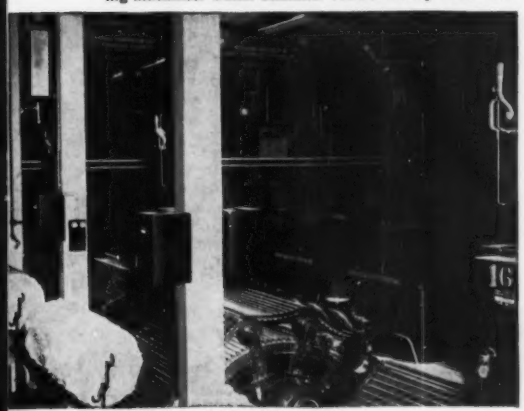


for **FISHER** at Fisherville, Mass. Cutler-Hammer Primary Resistance Starters are used to provide smooth starting as well as constant protection on these roving frames.

for **EXPOSITION** at Atlanta. Not only are Cutler-Hammer Card Controllers used on these individual motor driven cards, but Cutler-Hammer Motor Control is used throughout the plant.



for **EDDYSTONE** at Eddystone, Pa. Cutler-Hammer Safety Switches and Autotransformer Type Manual Starters stand guard over the performance of m.g. sets for cloth printing machines. Cutler-Hammer control widely used here.



for a **LARGE SOUTHERN MILL.** Cutler-Hammer Card Controllers are standard equipment in this great mill in North Carolina.

Ask the men who know

Cutler-Hammer Motor Control is the natural choice of men who know *both* textile industry requirements and comparative motor control performance. They know Cutler-Hammer dependability is not a mere competitive claim but a fact that can stand out clearly in a mill's production records to reflect favorably on their own ability and good judgment. They also know that Cutler-Hammer dependability is not an occasional happenstance... that it is the direct result of the longest and most intensive specialization in motor control engineering. And they know Cutler-Hammer dependability can safeguard *all* of their motor control needs, that Cutler-Hammer can furnish *any* type of control required... from the simplest starters to the most complex electronic equipment.

You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1457 St. Paul Ave., Milwaukee 1, Wis.

CUTLER-HAMMER CARD CONTROLLER

With integral drum type reverse switch

Here in one self-contained unit is all the control needed for a card... convenient pushbutton starting and stopping *plus* an integral reverse switch for cleaning and grinding. Card cannot be reversed accidentally or by any unauthorized person when controller case is padlocked. Easier to install. Easier and safer to use. Felt-gasketed against lint. Famous Cutler-Hammer Eutectic Element Overload Protection specially arranged to provide long starting time (required for cards) without loss of normal operating protection.

CUTLER-HAMMER
MOTOR CONTROL
C-H

The Best Saddle Combination

1. Lubronze insert bearing for front roll
2. Slixonice insert bearing for middle roll
3. Slixonice insert bearing for back roll

DIXON'S
LUBRONZE
FRONT BEARING
plus
DIXON'S
SLIXONICE
BACK BEARINGS

It's a combination, designed by Dixon engineers, to reduce oiling time and labor costs . . . to promote economical, continuous and dependable saddle operation in long draft spinning.

The Slixonice back saddle incorporates special, long-lasting, low-friction plastic bearings instead of cast iron. After a long period of use, only the plastic inserts need be replaced — not the entire saddle.

When used on either H & B, Whitin or Saco-Lowell long draft systems, back roll lubrication and the danger of oil-soaked yarn are completely eliminated. The streamlined design of the Slixonice saddle reduces lint accumulation and permits accurate control of roll speed and weighting.

Use of the Lubronze bearing in the Dixon front saddle reduces front roll lubrication to a minimum. The bronze insert is impregnated with graphite, oil and other materials to provide a smooth bearing surface, low friction and a reserve of lubrication for extra protection.

See your Dixon representative for full information on how old saddle types can profitably be replaced by the Dixon Slixonice-Lubronze combination. It will also be well worth your while to ask him about the complete Dixon line of saddles and saddle assemblies.

SOUTHERN SALES:
R. E. L. Holt, Jr. & Associates, Box 1474, Greensboro, N. C.
Covering the Carolinas and Virginia
J. W. Davis, Mfg'rs. Agent, Box 745, Columbus, Ga.
Covering Georgia, Alabama, Mississippi, Louisiana and Tennessee
NORTHERN SALES:
W. R. Potter, Sales Manager, Dixon Lubricating Saddle Co., Bristol, R. I.
Covering New England

DIXON
Established 1876
LUBRICATING SADDLE CO.

Books of Interest (Continued)

West 42nd St., New York 36; cloth, 472 pages, $4.50.

Written for both foremen and office manager, this book is personal in its approach to the personnel problems of our day. Illustrative material is given from real-life industrial situations.

Although the approach is simple and practical, technical explanations for recommended practices are given, evidently to broaden the reader's understanding of the subject. Some psychotherapeutic techniques are introduced, but luckily no extended discussion of psychoanalysis is given.

In short, the book presents logically the supervisor's role as a morale builder and discusses all the aspects of that important function in an industrial organization.

Textile Textbook Brought Up to Date

APPLIED TEXTILES, Raw Material to Finished Fabrics, Fifth Edition, by George E. Linton and Joseph J. Pizzuto, Lifetime Editions, Inc., 120 East 25th St., New York 10; cloth, 386 pages, $6 ($7 foreign).

This revision of an accepted basic text consists of a bringing up to date of previously published data, plus new material in the field of man-made fibers and yarns, that students of textile manufacturing will find essential. And for the fabric man, converter, merchandiser, or retailer, information is given on the care of clothing, spot and stain removal, and the laundering of textiles.

The text, broken down into term units for school use, is well illustrated and is divided into four sections: raw materials and fabric construction; natural fibers; man-made fibers; and physical and chemical testing.

The authors' wealth of teaching experience in New York textile-education circles makes this work immediately valuable for both schools and the individual technologist.

French Prints Show Old Dyeing Techniques

AUTHENTIC PRINTS OF EARLY TEXTILE DYEING AND FINISHING, by Standard Chemical Products, Inc., Hoboken, N. J.; paper, 28 pages, no charge.

Reproduced in full-page size are 12 prints of old French dyeing and finishing methods that are part of a collection owned by the company in that field. Captions translated from the original French explain the equipment as well as the procedures followed.

Engineering Firm Tells of Its Work

CONSTRUCTION IN THE SOUTH, by C. M. Guest & Sons, Greensboro,

CALCO dyelines

Advertisement No. 23 of a series

PREPARED BY AMERICAN Cyanamid COMPANY CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT, Bound Brook, New Jersey
New York • Chicago • Boston • Philadelphia • Charlotte • Providence

For Fastness Before and After Resin Treatment...

Calcodur* Resin Fast Blue 2R and Calcodur Resin Fast Blue 2G are fast-to-light direct blues, developed especially for dyeing fabrics which are subsequently resin-treated. Their

outstanding properties are fastness to light and washing on viscose or cotton after the resin finish.

Ease of matching the final shade is assured to the dyer and finisher, because a minimum shade change is produced by resin finishes. Even in light shades they will withstand more than the usual requirements of forty Fade-Ometer hours. They exhibit ratings of four to five when given a No. 3 rayon wash test. Since these dyes leave acetate white, they are highly recommended for the dyeing of high quality acetate-viscose fabrics such as suitings.

They are bright and very level-dyeing, and will build up economically into rich medium to heavy shades. These two blues, alone and in combination, will provide a wide range of pleasing blue shades; or they can be used with other resin fast dyes to produce, with superior fastness, the numerous popular shades which are in current demand. *Trade-mark

A Progress Report on Printing

Mechanization of textile coloring methods continues. Many processes, once complex and time-consuming, are now done by continuous methods with less handling and greater production.

Keeping pace with this trend, new screen printing machines have been developed which have successfully mechanized former hand operations. These machines take cloth from a roll, print and deliver it dried, ready for further processes of color fixation.

Our line of Calconyls in a wide range of powder and solution types, supplemented by the Calco soluble vats, will meet the requirements of progressive printers.

Calconyl* Blue G	Calconyl Golden Yellow R
Calconyl Scarlet R	Calco Soluble Vat Gray
Calconyl Red B	Calco Soluble Vat Blue 2B
Calconyl Red G	Calco Soluble Vat Brown RR
Calconyl Red GB	Calco Soluble Vat Orange R
Calconyl Red R	Calco Soluble Vat Pink FF
Calconyl Violet B	Calco Soluble Vat Scarlet HB
Calconyl Yellow G	Calco Soluble Vat Violet 6R
Calconyl Yellow 2GR	

In some cases Calconyls are finished in more than one form, such as single and double solutions and powders.

A Respected Member of an Old Family—Calcomine* Brown M

From the standpoint of age, Direct Brown M is one of the oldest and best known of the direct dyeing browns; and because of its rich, chestnut brown shade, it is one of the most useful colors in this group.

Calcomine Brown M can be applied on all classes of cotton, rayon and viscose materials as well as silk and wool. It is suitable for dyed ground shades for colored discharge printing. Its fastness properties are improved by aftertreatment with copper sulfate or bichromate, or by diazotization and development.

The color can be dyed on wool, producing shades of excellent fastness to washing and to sea water. In union materials, the cotton, viscose and wool are dyed to about the same depth of shade.

Calcomine Brown M is especially recommended for package dyeing. It also enjoys wide use in dyeing of skein yarns and hosiery goods.

For the Textile Bookshelf

Dyeing of Wool Stock and Slubbing With Vat Colors by S. J. Luscian (Calco Technical Bulletin 819—Supplement to Calco Technical Bulletin No. 797 issued in 1947)—The reader is brought up-to-date on improved dyeing techniques as well as on data derived from extensive mill applications.

Application of Vat Dyes to Piece Goods by Ormond W. Clark (Calco Technical Bulletin 822)—A complete review of the development of vat dyes since their introduction to the dyeing industry. The various methods and procedures are fully discussed.

There are 113 Ph. D.'s, 84 Masters of Science and 407 Bachelors of Science employed at Calco.

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

Books of Interest (Continued)

N. C.; cloth, 80 pages, no charge for single copies.

Beautiful black-and-white photographs of mills, power plants, filtration and disposal systems, equipment installations, modernizations, and employee-housing programs are offered in this brochure describing the work done in recent years by one of the South's engineering firms.

Invention Descriptions Available from Washington

GOVERNMENT-OWNED INVENTIONS FOR FREE USE, by Govt. Patents Board; Commissioner of Patents, U. S. Dept. of Commerce, Washington 25, D. C.; listing of 2,339 patents, $1; copies of individual patents, by number, 25¢ each.

Among the patents listed in this publication are 36 pertaining to textile-mill products. These patents relate themselves to the following operations: (1) manufacture of yarns and threads, (2) manufacturing woven fabrics, (3) dyeing and finishing, and (4) coating, waterproofing and other surface-treating of fabrics.

Information is given chronologically by patent-office number, descriptive titles, inventors' names, agencies administering the patents, and industrial classification of each invention.

Heating Systems Analyzed Broadly

HEATING DESIGN AND PRACTICE by Robert Henderson Emerick; McGraw-Hill Book Co., 330 West 42nd St., New York 18; cloth, 453 pages, $8.

Textile-mill engineers can get good information from this book on, for example, how to select the right heating system for particular jobs, or on the relative combustion characteristics of various fuels, or on the motive power and operational characteristics of gravity systems. Included are everyday problems from actual working cases.

Is there a

SCRAP MINE

in your plant?

★

Dig it out for defense!

EVEN TENSION ALL THE TIME

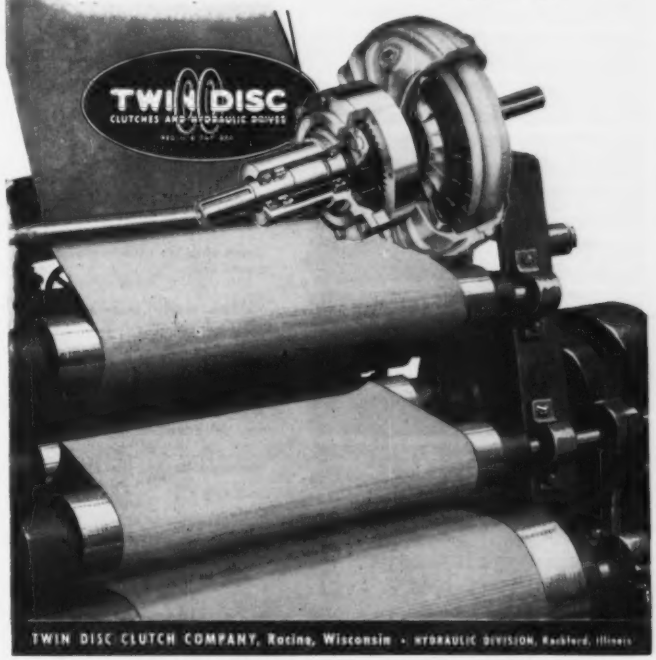
More and more mills are proving for themselves that the Twin Disc HYDRO-WYND is the most modern of all tensioning devices. Wherever you find one installed they will tell you that no other unit offers all of these advantages:

1. **NO ADJUSTMENTS**—ever—during roll build-up or let-off.
2. **REDUCES MAINTENANCE** on motor and driven parts because of fluid cushion.
3. **SO SIMPLE** in construction that it goes years itself with only a few pennies for maintenance.
4. **SO AUTOMATIC** in delivering pre-determined tension and lineal speed that you never need to worry about quality at beginning, middle, or end of run.

Write today for Bulletin No. 161 for complete details on the HYDRO-WYND, most modern of all tensioning devices.

The Twin Disc HYDRO-WYND . . . a unit which improves quality . . . speeds production, by maintaining automatic even tension at constant lineal speed during "roll build-up".

HYDRO-WYND most modern of all industrial tensioning devices



TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

TITAN automatic warp tying machine assures:

INCREASED PRODUCTION	Ties leased and/or unleased warp up to 108" wide in one operation.
HIGHER SPEEDS	Speeds tying of all types of warps —cotton, wool, worsted, rayon, silk, etc.
REDUCED BREAKAGE	End breakage is reduced and loom stoppage is minimized.
IMPROVED WARPS	It is dust free and clean.
VERSATILITY	Can be used for either stationary or portable tying or both.
ECONOMY	Quick changes by operator at reduced costs.
SIMPLE OPERATION	No special skill required by the operator.
VISIBLE TYING	Knots in sight at all times.
MILL PROVEN	Operating in many mills in U. S. and all six continents. In use for over 18 years.
PAYS FOR ITSELF	Increases trouble-free tying.

Send for descriptive literature and users' opinions.

EDDA INTERNATIONAL CORP.
488 FOURTH AVE., NEW YORK 16, N. Y. CALHOUN TOWERS, GREENVILLE, S. C.
U. S. General Sales Agents

TITAN

Southern Representative: Ira L. Griffin & Son, Charlotte, N. C.

For more information, write direct or use Reader Service post card.

Useful Accessories For Textile Mills

▶ To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

Anti-Rust Paint

An anti-rust paint, called Rust Cure, has been announced by Monroe Co., Inc. Cleveland 6, Ohio. According to the manufacturer, Rust-Cure can be applied on rusted surfaces without wire brushing, scraping, or sandblasting. Maintenance costs are said to be greatly reduced by the savings in the amount of time and labor required to paint metal by ordinary methods. The manufacturer states that Rust-Cure seals rusted surfaces and retards further rusting action. The paint is available in black, aluminum, and clear for brush, dip, or spray application, indoors or out. (U-1)

Automatic-Control Drives

Mechanical automatic control on its Series-1000 fractional-hp. Vari-speed drives has been announced by Reeves Pulley Co., Columbus, Ind. Formerly only handwheel and electric remote controls were available in this series. The Series-1000 motor-drives are manufactured in ¼-, ½-, ¾-, and 1-hp. sizes with speed variations as high as 10 to 1. Each unit is a complete variable-speed power plant, consisting of the standard speed-varying mechanism. The choice of any standard motor with a built-in helical gear speed reducer is optional. (U-2)

Fabricated Steel Blowers

A new line of fabricated steel blowers of large capacity and various sizes has been announced by Billmyre Blower Div., Lamson Corp., Syracuse, N. Y. Standard models in the new line range up to 200 hp. New steel-cutting and continuous-welding methods have made the new designs possible. The manufacturer states that in addition to larger size, the new line offers weight saving and space economy, not feasible in cast-blower construction. At the same time, durability, simplicity, and efficiency are not sacrificed. (U-3)

High-Powered Vacuum

A new high-powered vacuum designed to aid in efficient and economical building maintenance has been announced by S. C. Johnson & Son, Inc., Racine, Wis. The 5/7 hp. electric motor and collection chamber of the Wet-Dry Vac are enclosed in a sturdy shell of heavy-gauge

Step up your weaveroom efficiency

with this CW in

HOUGHTO-SIZE CW . . .

Add to starch and water for a cost-saving size that gives a stronger free-running warp!

When you see "CW" after Houghto-Size you can be sure you're getting a warp sizing compound that gives you improved weaving results . . . and a new low in kettle cost! All you do is add Houghto-Size CW to starch and water—no other ingredients required.

GET SLEEKER, SLICKER WARPS

With these three ingredients you produce a sizing agent that combines an all-in-one softener, binder and plasticizer. It leaves a slick coating on the warp . . . makes it smoother, more weavable . . . keeps it from sticking to dry-cans!

GET RISING WEAVE ROOM EFFICIENCY

You'll find highly concentrated Houghto-Size CW assures you of strong, elastic warps. Loom efficiency will rise. Loom stoppage will decrease substantially.

GET FULL INFORMATION PROMPTLY

Write or call E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa. for further information and prices on the new Houghto-Size CW. We'll include our illustrated bulletin, "Step Up Warp Sizing Efficiency" which describes our complete warp size check-up service available to Houghton customers.

SPECIAL

If sizing is your responsibility, a request on your mill's letterhead will bring you free of charge a copy of Houghton's 160 Page "Handbook on Cotton Warp Sizing".

HOUGHTO-SIZE CW

. . . product of

E. F. HOUGHTON & CO.

PHILADELPHIA • CHICAGO • DETROIT • SAN FRANCISCO

Ready to give you on-the-job service . . .

INVESTIGATE
Tower
TEXTILE EQUIPMENT

OPEN
WIDTH WASHER

Your investigation will reveal — Tower Textile Engineers are good men to know particularly if you are cost conscious. Our skilled consultants will be pleased to confer with you on the design and installation of the finest in textile equipment, to meet your most exacting operational requirements.

Write for free booklet on Tower Textile Equipment

IRA L. GRIFFIN & SON
Charlotte 1, North Carolina
Southern Representative

Tower Iron Works
Established 1835
50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND

Useful Accessories (Continued)

steel. The new all-purpose vacuum is said to remove water quickly from any type of floor and to draw in all particles of dirt and grime. The unit can also be used for cleaning overhead areas like pipes, beams, and other hard-to-reach spots. Each machine comes complete with the standard tools and attachments needed for most cleaning jobs. (U-4)

Interchangeable Hub Sprocket

An interchangable hub sprocket to fit their "QD" V-belt sheave has been developed by Fort Worth Steel and Machinery Co., Fort Worth, Tex. The sprocket is designed to fit directly on the sheave hub without reboring on sprockets. The "QD" sprocket is taper-bored to receive the tapered hub. Bolts are provided to pull the sprocket onto the tapered split hub for a tapered drive assembly and a positive press fit on the shaft. A set screw over the keyway holds key in position. These sprockets are stocked at the factory in ¼-in. pitch through to 1¾-in. pitch. (U-5)

Motor Indicating Light

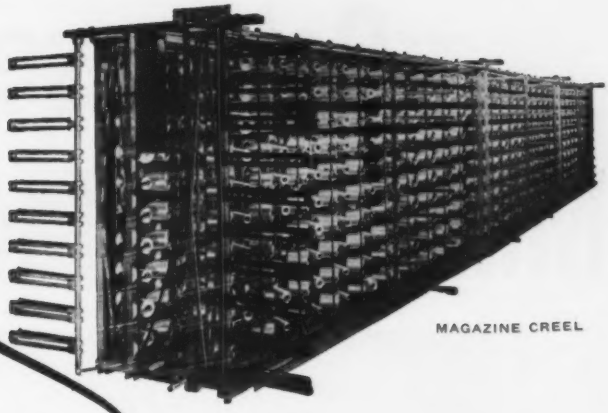
A motor watchman with indicating light has been announced by Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. The indicating light generally is used to show whether the starter is on or off, but it can be wired into the circuit to indicate other conditions also. The light can be provided for a.c. voltages of from 110 to 600. NEMA size 0 and 1 manual motor starters have built-in indicating lights and are mounted in NEMA Type-I enclosures, and designated as Classes 10-100-S1 and 10-100SOA. (U-6)

New Steam Cleaner

A steam cleaner designed to work on any steam supply of 60 to 150 lb. pressure has been announced by Hypressure Jenny Div., Homestead Valve Mfg. Co., Coraopolis, Pa. Known as Model F-15 Fireless Hy-Steam Pressure Jenny, the new unit is said to clean eight to ten times faster than bucket-brush-and-scraper or hand-cleaning methods. The unit is designed to mix steam supply with positively pumped proportions of water and cleaning solution for cleaning, sanitizing, and deodorizing. The capacity of the unit is from 45 to 90 gal. per hr. of boiling hot chemical-vapor spray. (U-7)

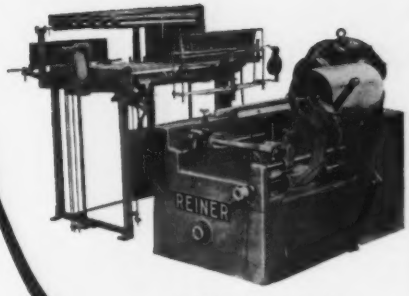
Remote-Control Attachment

A remote-control attachment for fork trucks has been developed by Baker Industrial Truck Div., Baker-Raulang Co., 1250 West 80th St., Cleveland 2, Ohio. The new attachment is designed to allow truck operators to control the lifting and lowering action of the forks at a distance from the truck's control panel. Truck operators use pallets with guard rails as work platforms, standing on the pallets as they raise themselves to the



MAGAZINE CREEL

A PERFECT TEAM



SECTIONAL WARPER
Model SW-24 with Yarn Storage Device

—designed to meet the need for speed, quality and economy—the very essentials for perfect production.

REINER CREELS—Magazine, Single Type, Truck or Special Duty—are of the most modern construction, meeting all requirements, suitable for all yarn packages including nylon pirns. Available with mercury contact, electrical drop lever and loom type (drop heddle) stop motions, balloon control, variable pin disc tensions to serve all possible mill needs, from the finest to the coarsest yarns. Many other features are described in our creel catalog—yours for the asking.

REINER WARPERS—Sectional and full width—are of rugged construction—able to withstand the highest speeds and heaviest use. The Reiner automatic yarn storage device is designed to take off yarn from the spool to facilitate repairing of broken yarn ends without disturbing the yarn tension. Sectional warpers available up to 84" in length, with flange diameter up to 30". Shorter models adaptable to multiple spools for the milanese and narrow fabrics trades. Many patented features insure ease of handling, safety and above all—quality warps. For further details ask for our Warper catalog.

To Buy Reiner means to have a fully interrelated line of equipment from cane to fabric. It means ready advice and spare part service—in short, the best assurance of profitable and reliable production.

THE REINER LINE INCLUDES:

Tricot Machines (2- and 3-bar, 84" and 168")—Simplex (Double Knit) Machines—Raschel Machines—Kayloom Machines—Full Width and Sectional Warpers—All type of Creels—Four Section Full-Fashioned Hosiery Machines (up to 66 gg.)—Automatic Schiffli Embroidery Machines (10 and 15 yards)—Bobbin Winding Machines (for Stitching and Quilting)—Ready Spare Part Service for all Reiner Machines.

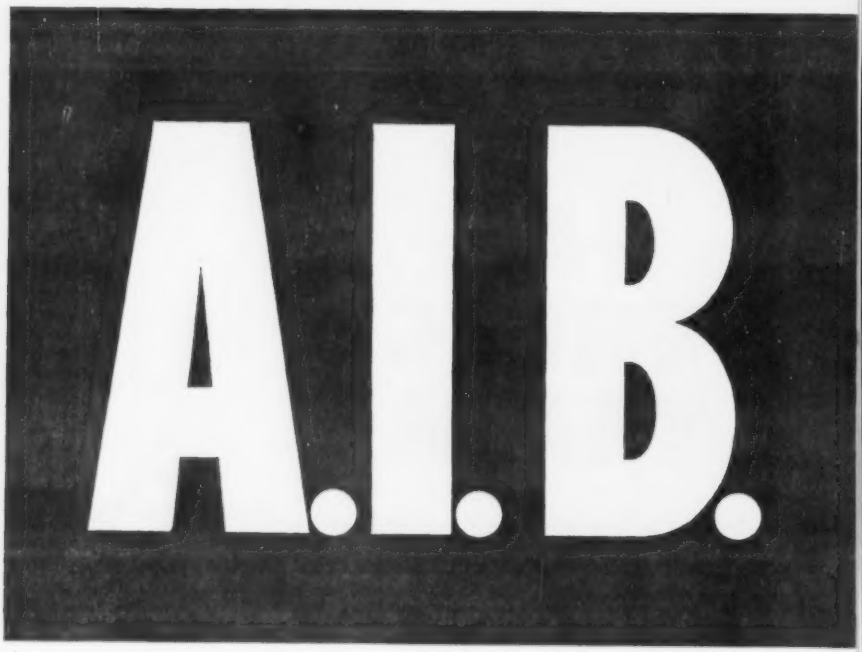
FOUNDED IN 1903

ROBERT REINER INC.

550-584 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882

Celanese offers Mills, Manufacturers



To aid you in making the greatest possible asset out of the new Federal Trade Commission rulings for required labeling of acetate as distinct from rayon, Celanese Corporation of America has instituted a special service bureau which will function on a national scale with respect to identification, education and promotion.

TO MILLS AND CONVERTERS:

Through the newly formed Acetate Information Bureau, Celanese is prepared to offer mills and converters a comprehensive program of fiber identification. This program, entirely independent of Celanese trademarks, will accommodate both acetate and the other important fibers when they are combined with acetate. It will be promoted consistently on an industry-wide basis to manufacturers and retailers and will include informative care instruction tags.

TO MANUFACTURERS:

A.I.B. is ready with a fiber identification program, as referred to above, and will supply correctly worded hang tags which are adaptable for featuring the manufacturers' own trademarks and special promotions. They will be tied in with the store's own advertising and promotion and featured in sales training programs of stores. Retailers will be fully informed of this program and urged to request it from all their resources. This service will be promoted nationally by Celanese advertising.

TO RETAILERS:

A.I.B. offers retailers a full complement of both manpower and material in organizing and implementing a retail program of fiber identification. Included are sales training films, point-of-sale material, direct mail aids, special hang tags with care instructions to assure

For more information, write direct or use Reader Service post card.

a new service for and Retailers

ACETATE INFORMATION BUREAU

customer satisfaction. Personnel from the Bureau will be available for holding store meetings.

A COMPREHENSIVE PROGRAM

Celanese is backing up this program with the most extensive advertising and promotional campaign ever to appear in the textile industry. Included are general magazines, women's service books, fashion magazines, and network television. Lined up also, an intensified program of editorial support from leading publications.

Write for full details of this important, comprehensive program. It is in the interest of everyone concerned to comply with the new Federal Trade Commission labeling rules. *Why not turn it into a real selling asset?* We are prepared to supply all necessary material. Address, Acetate Information Bureau, Celanese Corporation of America, 180 Madison Ave., New York 16.

The new F. T. C. regulations regarding the correct identification of acetate and rayon merchandise were promulgated on December 11, 1951.

Celanese

CORPORATION OF AMERICA

180 Madison Avenue, New York 16

DARNELL
CASTERS & WHEELS

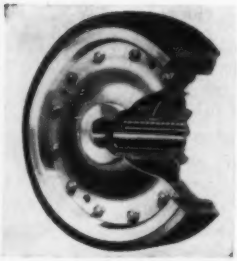
For light or heavy duty service Darnell Casters and Wheels are made for a long life of trouble-free usage, to protect floors and increase employee efficiency.

Free
MANUAL

DARNELL CORP. LTD.,
LONG BEACH, CALIFORNIA,

60 WALKER ST., NEW YORK, N.Y.
36 N. CLINTON, CHICAGO, ILL.

Always SWIVEL and ROLL



Useful Accessories (Continued)

stock they want. Lifting and lowering is controlled by the small remote-control unit held in the operator's hand. (U-8)

Stainless-Steel Tops

Stainless-steel tops for laboratory furniture have been developed by Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa. The tops, supported by thick plywood sections, are made in one piece with an integral splashback and reagent shelf. The stainless steel used contains over 30% non-ferrous alloying materials for resistance to the action of laboratory reagents. The rolled front edge is designed to protect the laboratory worker, and it also forms a convenient drip edge on the underside. The complete line includes a wide variety of units now available in stock. (U-9)

Thermometer-Reading Magnifier

A magnifier that is designed to simplify thermometer readings has been announced by Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa. The device is equipped with a pair of spring clamps and may be easily snapped onto any standard thermometer and moved up or down to any desired position to magnify a full two-inch section of the thermometer scale. Accurate readings can now be taken from as far as 6 ft. away and at a wide angle from directly in front of the scale. A hairline engraved across the center of the magnifier can be set at any desired temperature to serve as a guide. (U-10)

Truck Clamping Forks

Electric fork trucks with hydraulically operated clamping forks have been announced by Lewis-Shepard Products, Inc., 191 Walnut St., Watertown 72, Mass. The new Spacemaster "49" electric fork trucks are equipped with clamping forks that can be fitted with self-aligning rubber-faced gripping pads when required. The minimum distance between forks is 12 in., and maximum distance is 27 in. The clamping pressure is controlled by a hydraulic by-pass relief valve that is readily adjustable to suit the loads to be carried. Direction of travel, steering, and movement of the clamping arms are manually controlled. (U-11)

Weaving Practices

(Continued from page 111)

lease string that was put in reaches the front. Then we run our lease rods and start the slasher."

"We use two strips of tape when beams are doffed. One tape stays on the warp, and the other starts the new beam. Our standard waste for the lease at the tying-in machine is ½ yd." Another mill had this to say about warp waste:

"Our warp waste is broken down into two parts for control purposes."

"Waste consisting of the extra ends in the warp, loose ends, doublings,

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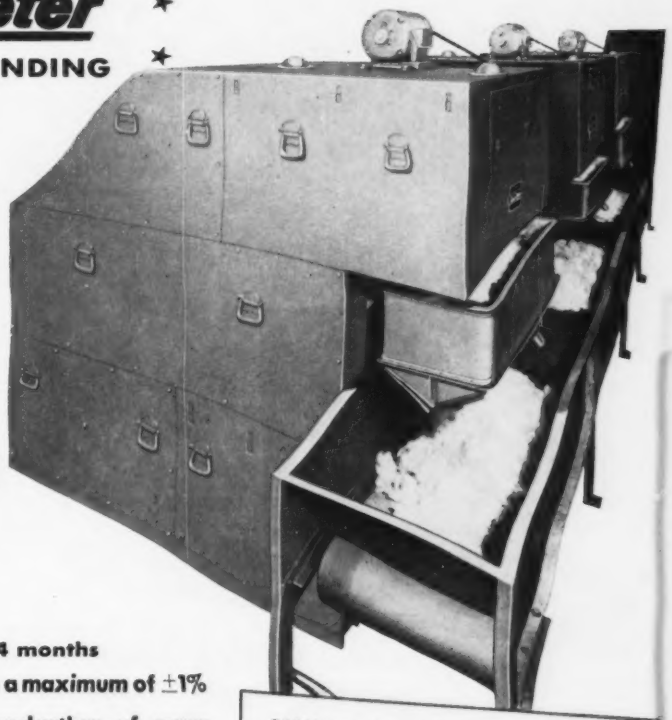
AUTOMATIC BLENDING SYSTEM

It can do for you what it's doing for others



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The Fiber Meter Automatic Blending System is a *proven* process for substantial cost reduction and uniformly accurate blends of synthetics, cotton or wool not possible with any other method. Ask us for the proof of what Fiber Meter Blending can do for you.

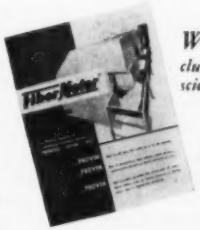
WHAT USERS SAY ABOUT THE FIBER METER SYSTEM

"...our plants are using your equipment and with complete satisfaction."

"...we would be tempted to go off rayon blends if we had to go back to one of the older methods which we were using."

"...would like to state that we have found the system satisfactory and we feel sure it will do the job for which it was intended."

"We have our complete installation in operation now... It certainly is a labor-cost reducer. It is a good investment on this point alone."



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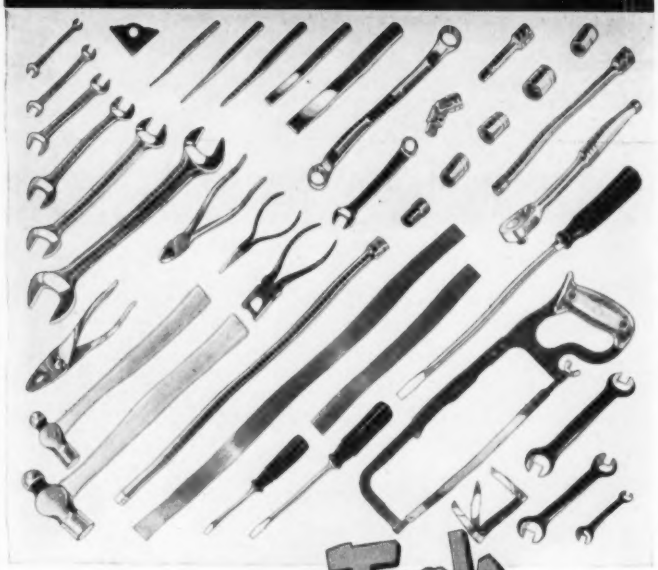

*Snap-on Tools SET No. 2040-LF

make skilled hands quicker, surer, safer

With a carefully-planned special set of Snap-on loom fixer's tools such as these, a good loom fixer is a more valuable man —for the mill as well as himself.

He's a safer man on the job, because he's got the *right* tools—tools that fit properly, balance right, don't slip. He's faster on the job because Snap-on Tools bring out all the natural skill in a man's hands. He's surer, because, whatever the adjustment or repair, he has the tools to do it *right*.

He's a real profit factor, because his looms will show fewer breakdowns, less down-time, less sub-standard production.

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SNAP-ON TOOLS CORPORATION

8100-A 28th Avenue, Kenosha, Wisconsin

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singlings, etc., when taken off the beam, is returned to the warpers and is charged to them on the weekly report."

"Waste made when a new warp is tied in is charged to the weave room. Here, just enough yarn is pulled over to start up the loom on a new warp."

The charts kept by another mill show the previous year's average as well as the standard expected and the current waste. One man is responsible for warp waste in this mill, and he submits a daily report."

What do you do about filling pieces?

In most mills, filling pieces are put back in by the battery hand. When cans are emptied, the quill man leaves the pieces for the battery hand. Looms that make too many pieces are flagged for the fixer.

Less trouble with pieces is reported by mills using rewound filling. One mill reports excellent results with a Holcombe feeler.

To make sure that pieces are used up by battery hands, in some cases the quiller operators send back pieces that the quill men miss.

One mill uses a bad-filling sorter. This man collects all tangled quills and straightens them out as much as possible. Many tangled bobbins are thus saved from being cut off.

Several of the Alabama mills make periodic tests in both spinning and weaving to make sure that pieces are minimized.

Records of filling pieces are kept by some mills, by shift. These daily reports are checked against a standard.

What system do you have for disposing of dirty and oily filling—if you have this condition?

All the mills agreed that dirty and oily filling is always a problem. Most of them have the battery hand responsible for this type of waste.

Dispositions of dirty filling mentioned were: in seconds, in burlap, blown off, and for starting looms.

Here are a few of the best answers:

1. "We keep our filling in sacks from spinning frame to loom and try to keep filling boxes on looms from being filled up. Everyone works to keep filling off the floor and all are instructed not to handle filling with greasy or dirty hands."

2. "Each battery hand brings all of his dirty filling to his second hand 1 hr. before shift-changing time. This gives each one a chance to work up his bad filling. This system has really brought our filling waste down to a minimum."

3. "Our filling boxes on the loom have been redesigned so that the doff trays from the filling frames may be placed on the loom. This cuts han-

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. . . you can give your products the "buy-appeal"
that really *sells* by having your nylon, silk and rayon yarns
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Our reputation for workmanship and reliability has stood the test of time for
59 years, and it means *good business* for you to capitalize on it.
Let us make *your* problems *our* problems. We can
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dling and reduces the amount of filling dropped on the floor."

4. "We keep the floor around and under our looms as clean as possible. Filling must be picked up as soon as it is dropped. Filling haulers and battery hands are constantly reminded of the importance of keeping this waste down. Oily filling is weighed daily and checked against standards."

5. "Shifts compete in the fight to keep dirty filling low. The second hand counts it at the end of each shift and posts the results on a chart. Individual pride and competition have helped us a lot on this problem."

TOE Slashing

(*Continued from page 119*)

multimotor drives. Some mills thought that they received the benefit more in slashing than in weaving.

Less chance for human error is another reason why the Alabama mills like the new drives. The increased vardage on the beams also results in fewer warp-outs and higher weaving efficiencies, in some cases.

COVERING SQUEEZE ROLLS

Here are the actual procedures followed by all of the Alabama mills that answered the question on this subject.

Mill A

Clean roll off and paint with white lead. Fill size box half full of water. Add size to bring it up to the regular level.

Wind 5 ends of 4.5s cotton yarn for 4 narrow layers
Wind 2 ends of wool yarn for 5 narrow layers
Wind 5 ends of 9.5s cotton yarn for 2 narrow layers
Wind 2 ends of wool yarn for 5 narrow layers
Wind 5 ends of 4.5s cotton yarn for 2 narrow layers
Wind 2 ends of wool yarn for 5 narrow layers
Wind 5 ends of 9.5s cotton yarn for 2 wide layers
Wind 2 ends of wool yarn for 2 narrow layers
Wind 2 ends of 9.5s cotton yarn for 2 wide layers

Brown in this roll for about 48 hr., then wind every 48 hr. as follows:

Wind 2 ends of wool yarn for 2 narrow layers
Wind 2 ends of 9.5s cotton yarn for 2 wide layers.

The back roll is wound and browned in for 24 hr., then it is turned to the front and the new back roll is wound.

Mill B

On high-speed slashers we use yarn-wound squeeze rolls because it is im-

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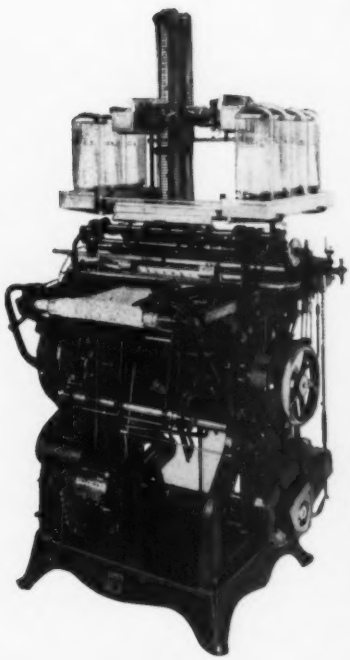
WILDMAN
High Production
FULL FASHIONED
HOSIERY MACHINE

★



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Important Developments

1. INCREASED PRODUCTION . . . machine designed to produce 16 to 20 stockings per head per 8 hours.
2. FULL AUTOMATIC WELT TURNER . . . automatically places every needle loop on to the needles to form the hem or welt of a stocking. Also forms a locked stitch where the two parts of the welt or hem join the main part of the stocking. AND MANY OTHER FEATURES.
3. TWO-SPEED INDIVIDUAL MOTOR DRIVE. A simple fractional horsepower motor of general commercial design is employed to drive the machine through a system of "V" belts and pulleys to operate the straight knitting at a high speed and reduce the speed considerably when the automatic operations function.
4. DOUBLE CATCH-BAR . . . maintains efficient production at excessive speeds by controlling sinkers and dividers individually.
5. GUIDED CARRIER BAND DRIVERS . . . assures more positive action and longer life at higher speeds.
6. SIZE CHANGER . . . simplified method of altering position of several buttons on the pattern chain to make different size feet.
7. POSITIVE DESIGN . . . eliminates all mechanism failure at high speeds.

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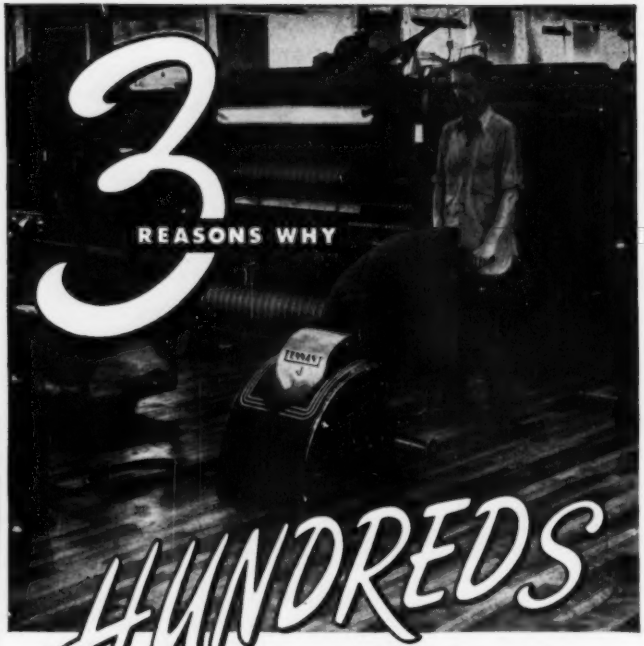

OF MILLS USE THE
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OF FLOOR MAINTENANCE

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You save 4 ways—in *manhours,* by cleaning faster in one operation with 1 man; you cut *accident costs* by DRY-cleaning (no wet, slick floors). You avoid needless *floor repair costs* . . . and reduce *stock losses* from snags, splinters and soilage.

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Works like magic! You get rid of dark, rough, oil-soaked fibers . . . and have a smooth, bright, *hardened* floor surface that resists dirt. Stays clean longer! Ends costly, harmful scrubbing and wet-mopping.

3. FITS YOUR MILL'S SPECIFIC NEEDS

Your TENNANT System is individually selected and planned, 100% *specialized* for your mill. Assures you of best results. Personal installation and periodic inspection . . . *without charge.*

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possible to get a smooth roll with cloth.

Wind 3 ends of jute yarn for 2 layers
Wind 5 ends of cotton yarn for 10 layers
Wind 3 ends of wool yarn
Wind 2 ends of cotton yarn for 6 layers
Wind 5 ends of cotton yarn for 2 layers
Wind 3 ends of wool yarn
Wind 2 ends of cotton yarn for 2 layers
Dress the squeeze roll every 48 hr. as follows:
Wind 5 ends of cotton yarn for 2 layers
Wind 3 ends of wool yarn
Wind 2 ends of cotton yarn for 2 layers

About every 4 mo. cut this covering off and rewind the rolls. Our rolls are so arranged that their position can easily be reversed; so the roll on the back is wound each day, run in this position until the next day, and then reversed.

Mill C

We use synthetic rolls in the back position.

On the finisher rolls, we use a brass-covered core and cover with about 6 yd. of cloth and a 6-yd. wool blanket. When we put on a new blanket, we put the new material on first, then cover with as much of the old as is usable.

Mill D

For our particular weaves, we use wool and cotton yarns for covering our squeeze rolls.

We dress our rolls every 16 hr., and we use two strands of wool and one strand of cotton. First we make a complete traverse across the roll, then we break out the wool and run one traverse of cotton yarn.

When we start a bare roll, we cover it with several layers of jute yarn to give us a cushion. Then we come back with the two ends of wool and one of cotton for about four traverses—enough to get a good coverage over the jute. On the last traverse we break out the wool ends.

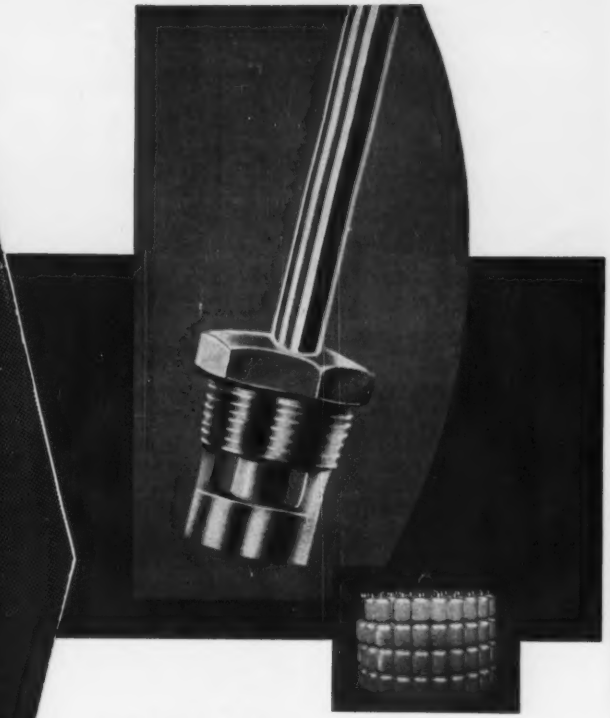
We have found that yarn-wound rolls are much better than blankets for colored goods. This way we don't have blanket marks on colored warps.

Mill E

We've used yarn-wound rolls for 16 yr. and have had no blanket marks, which show up badly on denims. All we have is a cover mark when covering.

Here's our procedure. Wind one strand of wool and two strands of cotton for one traverse across the roll. Go back across with two strands of cotton. Wind four strands of cotton

THIS IS THE *NEW* PACKAGE DYE SPINDLE YOU'VE BEEN LOOKING FOR!



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- **Entirely new construction**
- **Indestructible**
- **Greater Flow—for better dyeing**
- **Minimum Resistance—Open flow to package**
- **Interchangeable for all sizes of dye tubes**

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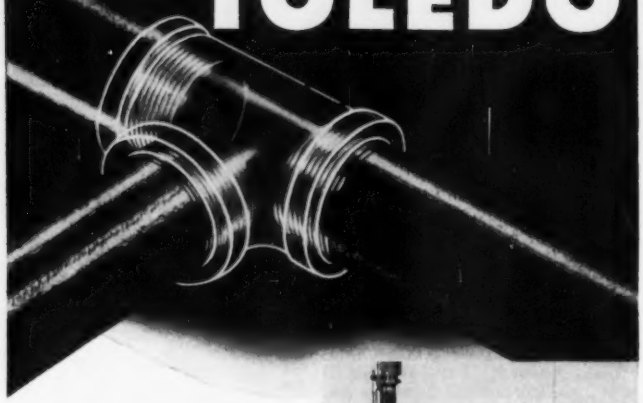

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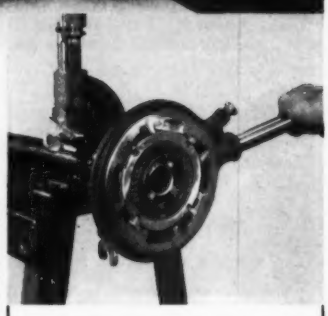
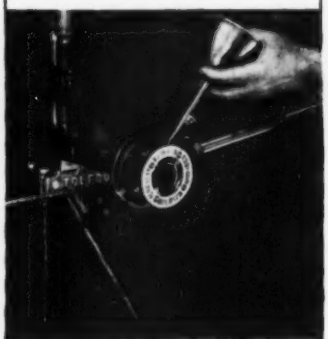


Toledo SIMPACT — self-contained, adjustable threader, 1"to 2" pipe.



Toledo Small Ratchet Threaders made in three models, ⅛" to 2" pipe.

Toledo No. 999 2" pipe machine, wheel or knife cut-off.

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with one of wool so that the last layers of cotton tie down the wool.

Cover rolls every 8 hr. In slashing denims it is necessary to do it this often because of the caustic that remains after dyeing.

Mill F

We use yarn-wound squeeze rolls and cover them in the standard way with the McGann winder.

Mill G

Two of our slashers have rubber back rolls and wool-covered finishing rolls. Four other slashers have the same finishing rolls but cotton-cloth-covered steel black rolls.

We use two 3-yd. pieces of wool to cover one roll. When we change the covering, the top 3-yd. piece is thrown away and the bottom piece is used as the outer cover for the new piece.

Mill H

Squeeze rolls are turned down smooth before covering, then painted with a good paint.

To start building up a roll, six strands of jute yarn are used for two rounds. Then use 8s cotton yarn for two rounds and finish with one strand of 10.5s/3, six strands of worsted yarn, and four strands of 8s cotton yarn.

Re-cover after every three or four shifts with one wool and four cotton ends.

All of this is done in boiling water except for the jute, which is put on dry.

We prefer this method over blankets because it is less trouble to put on and does a better job.

Mill I

We have metallized our squeeze rolls with copper to stop rust.

We paint the rolls with a heavy coat of white paint and allow to dry until sticky to prevent cloth slippage.

We put on one round of heavy sheeting, then add three more rounds. We prefer all four rounds in one piece.

The wool flannel is put on in two 3-yd. pieces. When the outside piece wears down, we replace it with the inner piece and have the new section on the inside. In this way we must run a new blanket on the finisher.

Our back roll is covered with burlap. We find that this saves time over the method of changing flannel from the back to the front roll.

Mill J

We use a rubber roll on the back and two pieces of flannel on the front. When the top piece is worn, we take both off and put on a new piece next to the roll and recover with what was the inner piece.

Mill K

We move the blanket from back to

LABOR

RAW MATERIALS

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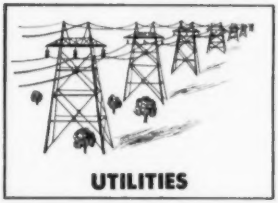

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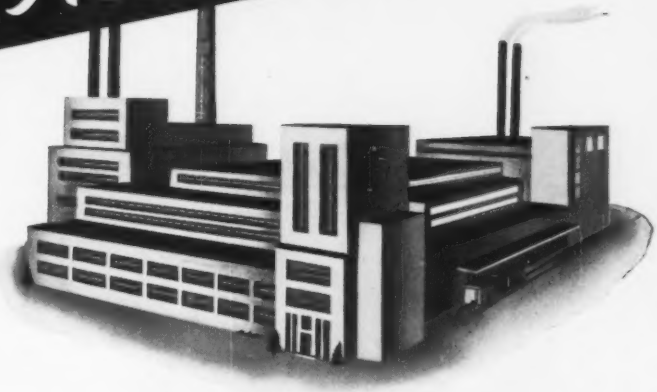

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front and recover back rolls every 120 hr. We use 7 yd. of wool flannel.

Mill L

For covering squeeze rolls we use 6 yd. of duck and 3 yd. of wool slasher cloth for the finisher roll. Our back rolls are rubber covered.

Mill M

Our five slashers have synthetic squeeze rolls on the back. Two slashers have 5 yd. of 17-oz. nylon-wool blankets on the finishing rolls, and three slashers have thread-wound finishing rolls. All finishing rolls are brass with a knurled finish.

Wool blanket rolls are covered this way. Wind a 3-yd piece of No. 12 cotton duck on the bare roll. (You don't have to paint the brass rolls.) Then wind a 5-yd. length of wool blanket on the roll.

When a new blanket is put on, we put the old blanket on top for about 24 hr., then take it off. We make a daily check and trim as needed. We run about 150,000 yd. per blanket.

We get a better finish with our blanket rolls by using the old blanket on top until the new blanket gets set to the roll.

For yarn-wound rolls, we have a traverse mechanism attached to the size box. The traverse is right over the finishing roll and is driven from the back roll by a sprocket gear and chain. Traverse is all the way across the roll.

We put four traverse lengths of 10s/7 cotton yarn (about 220 yd.) on the roll for a base. Then we wind on two ends of 6s white Bradford-spun worsted yarn and one end of 2s/7 cotton yarn (about 3,600 yd. of yarn). We redress every 32 hr. with two traverses (110 yd.) of yarn.

Tests showed that our two wool, one cotton was just as good as three wool yarns. The cotton yarn is a good binder as well. We get a good finish and less shedding with our present redressing schedule.

HOT-AIR SLASHERS

Production

Increases in production with hot-air slashers range from 10 to 30%, according to the reports from Alabama mills.

Cloth Defects

Results at least equal to cylinder-slashed yarn are reported from weave rooms. One mill says that yarn from hot-air slashers is rounder and does not have a tendency to roll or drag between harnesses and drop wires. For them, it has meant fewer breaks behind the loom.

Operating Costs

There's not much data on this sub-

MEON MAGIC

When you apply MEON to cotton at the wet twisting operation, using from 1% to 3% solution in water, you'll agree MEON really works magic.

Here's Why:

• INCREASED BREAK STRENGTH

Since a considerable increase in BREAK STRENGTH can be obtained with MEON TREATMENT, many mills have found it possible to start with a shorter staple cotton and still produce a product meeting the minimum BREAK requirement *which formerly required a more costly raw material.*

• SETS THE STRETCH

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- As a fibre lubricant and softener when 1½% solutions are applied in the amount of 1½% – 2% total volume, by weight, on cotton, rayon, wool, or other wastes before reworking.
- As a surface active agent when using 0.1% to 0.5% solutions in innumerable applications where rapid wetting and increased penetration is desired.
- MEON in solution is used in connection with the garnetting of hard thread waste (both cotton and synthetic). Application is generally after garnetting, and gives more drag to the short fibres produced and thus permits more efficient carding and spinning.

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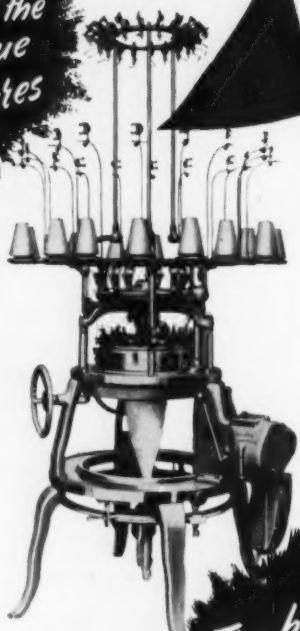

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ject yet. One mill, with fuel-oven slashers, has cut drying costs 18% over the cost with coal-generated steam.

Maintenance Costs

One mill has spent nothing for maintenance on a hot-air slasher that's been operating for 19 mo. (Nothing except regular checking).

The mill with fuel-oven slashers estimates maintenance costs to be twice as much as cylinder slashers.

Waste

"Practically no difference in hard and soft waste made," was the general reply on this phase of hot-air slasher operation. One mill says that there is less waste because threading-up yardage is less.

Electrical Controllers

(Continued from page 129)

open circuits carrying currents that are difficult to interrupt, they are equipped with arc-rupturing parts. The arc-rupturing parts generally surround the contacts and must be so made that they are easily moved out of position, or removed entirely to inspect and replace both moving and stationary contacts. To be effective, the arc-rupturing parts must be in a definite position with respect to the contacts. Hence the arc-rupturing parts always should be returned to the proper position if removed for any reason.

Shunts

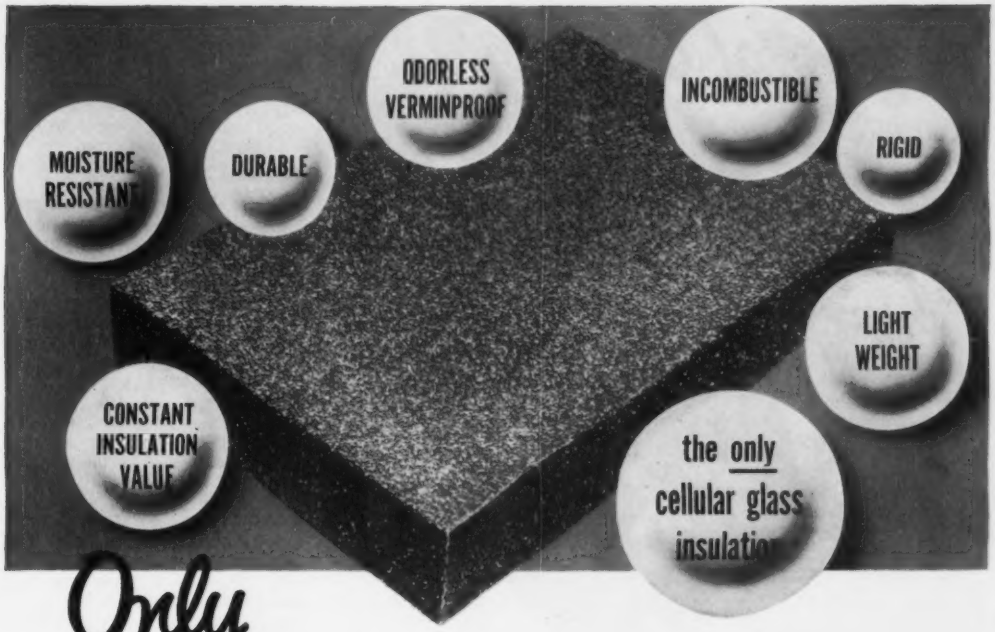
The fine strands of flexible shunts sometimes break where the shunt bends. The unbroken strands must then carry the entire current. If many strands break, the unbroken ones become overloaded; they overheat and eventually burn. Frayed shunts should be replaced.

Bearings

Contactor and relay bearings are designed to require no lubrication, except for bearings of master switches, drum controllers, and similar units. If lubricated, the accumulation of oil and dirt in contactors or relays may cause sluggish mechanical action that impairs the arc-rupturing qualities of the device or causes welding of the contacts.

The moving parts of contactors and relays should move freely in bearing surfaces without any evidence of tightness or friction. Periodic inspections to avoid friction in the moving parts are desirable.

Devices sometimes move vertically and therefore have no turning motion. The motion must be guided, and the



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FOAMGLAS is the only insulating material composed of millions of tiny glass bubbles containing still air. Still air is the world's best practical insulation. And glass, in this cellular form, has exceptionally high resistance to many elements that cause other insulating materials to deteriorate.

That is why FOAMGLAS, the only cellular glass insulating material, is such an effective, long-lasting, economical insulation.

The eight features mentioned above are the main reasons for the rapidly increasing use of FOAMGLAS in walls and ceilings, on roofs and under floors in all sorts of structures, as well as on hot and cold pipe lines and process equipment.

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These are the scales backed by Toledo's half-century of experience in Research and Engineering that has produced 80% of the major advances in scales during this time.

Toledo engineering has not only specialized in the direct design of weighing machine mechanisms, but also in the many associated fields such as electronics, plastics, metallurgy, optics.

Check your needs *now*—select Toledo equipment for vital jobs in guarding materials and costs! Sales and service in 200 cities. Toledo Scale Company, Toledo 1, Ohio. We will be very glad to send catalogs.

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New recessed frame design fully guards against foreign material lodging beneath platform edge—choice of full or semi frame, with economical conversion for future needs. Double parallel link platform suspension means long life, accurate dependability. Send for bulletin 2406C.

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HEADQUARTERS FOR SCALES

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guiding surfaces are comparable to bearing surfaces. Friction or magnetic sticking at these surfaces should be avoided.

Some designs use knife-edge bearings. Here the opening and closing action of the device "wipes" the bearing surface, keeping it clean.

Magnetic Sticking

When operating coils are de-energized, some residual magnetism remains in the magnetic circuit. This residual magnetism sometimes is strong enough to hold the device closed after the coil is de-energized. This condition occurs most frequently on small devices on which contact spring pressures and moving parts are light. Magnetic sticking causes erratic, unsatisfactory, and sometimes dangerous operation. This situation can be avoided by adding a non-magnetic shim in the magnetic circuit.

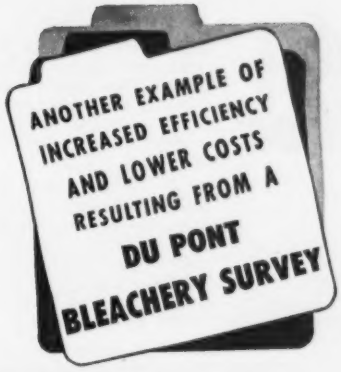
Dashpots

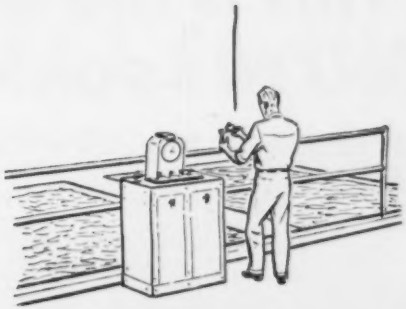
Air or oil dashpots are used to retard motions. They are machined to close clearances and must be kept clean and free to move. The proper amount and kind of oil always should be kept in oil dashpots. Since the viscosity of oil changes with temperature, substitute oils should not be used.

Noisy Contactors and Relays

When the voltage on the coil of an a.c. contactor or relay passes through zero, its magnetic pull or holding power is zero and the device starts to open. The voltage, however, is soon effective in the opposite direction and the device is again pulled closed. This operation causes a humming noise in an a.c.-operated device —and a decided chattering noise in a defective unit. The otherwise objectionable chattering is eliminated, and the device is kept closed by the use of a shading coil, usually imbedded in the laminated magnetic circuit of the device. The shading coil produces enough out-of-phase flux to provide holding power to keep the device closed during the short period when the main flux is zero. Even with shading coils in use, the air-gap surfaces must be free from dirt and well fitted to avoid objectionable noise. Broken shading coils are ineffective and cause noisy operation.

For quiet operation of a.c. contactors, it is necessary to provide well-fitted surfaces at the air gap. Any dirt in this area introduces a greater airgap when the unit is closed, increases the duty imposed upon the shading coil, and results in more noisy operation. To prevent rusting of the fitted surfaces at the air gap, these de-





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"Recirculate final wash water through the caustic washers and use a milder bleach!" These were the recommendations made by the Du Pont men after a recent survey of a mill's bleaching process. The results: a saving of over one million gallons of water per week . . . improved fiber quality . . . and reduced consumption of chemicals and steam.

Here's how a Bleachery Survey can help *you* increase production...cut costs

A Du Pont Bleachery Survey gives you the information you need to keep your present bleaching system operating at peak efficiency.

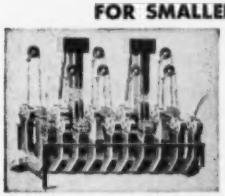
Du Pont surveys are conducted by men with wide experience in textile bleaching. Without interrupting production, these men spend from one to three days in your plant—examining fuel, water and chemical consumption, checking cloth production, and studying the quality of finished goods.

In addition to this check on processing technique, cloth samples are taken at the end of each major step in the bleaching process. These samples are sent to Du Pont laboratories where they are thoroughly analyzed for whiteness, whiteness retention, fluidity, absorbency and non-fiber content.

After the survey and laboratory tests are completed, the results are carefully evaluated in the light of Du Pont's broad experience in textile bleaching. Then, you receive a complete, written report on the operation of your bleachery—including recommendations.

Why not find out for yourself how a Du Pont Bleachery Survey can help you increase the efficiency of your present bleaching installation. This service is offered without charge to all users of peroxide. The coupon below will bring you full information.

FOR SMALLER BLEACHERIES



The Butterworth-Du Pont "Junior" Continuous Peroxide Bleaching unit gives low-cost quality results. Capacity is 500 to 1000 lbs. of cloth per hour. Also used as an auxiliary unit in larger mills.

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Available in drums and tank cars { "Albone" 35 . . . Hydrogen Peroxide, 35% / "Albone" 50 . . . Hydrogen Peroxide, 50% }

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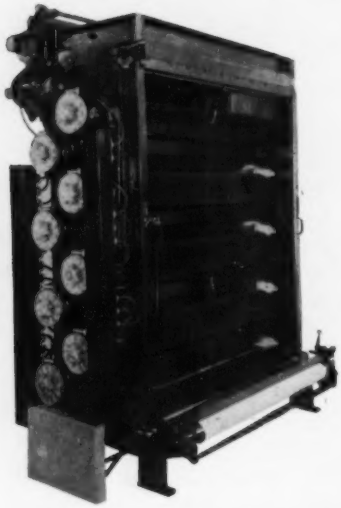

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HERMAS' NEW BRUSH

—Completely removes all mote, leaf, and dirt from the cloth and, by a powerful vacuum system, carries the brushings instantly away from the machine, using individual suction at each brush roll and an exhaust stack. No brushings or dust is left anywhere to remain in the cloth after brushing.

The drive

—*is synchronized* to operate this brush at the same speed as Hermas AV shear—up to 150 yards a minute if desired.

—*Individual motors on the eight brush rolls* stop and start simultaneously. No danger of individual rolls getting out of control and damaging the cloth.

—*Calibrated pressure controls* make it possible to get heavy or light standing or brushing at top or bottom of the machine if desired.

Ask us for the 14 points of Hermas brush superiority in construction and brushing service.

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America's Only Exclusive Specialists in Clothroom Operation

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vices are often shipped with a small amount of grease or oil on them. This lubrication may cause a "seal" that makes them sticky and sluggish in opening when first put into service. These surfaces, therefore, should be wiped clean before the units are placed in service.

D.c. coils are not subject to a zero-voltage condition, hence they are always quiet. For this reason, a.c., current-carrying contactors equipped with d.c. operating coils will operate quietly.

Loose Connections

Loose connections of any kind should always be avoided on electrical circuits and apparatus. An open circuit or an unreliable one may cause much lost time and production because loose connections are often difficult to find.

A loose connection causes a poor contact of high resistance and generates heat. The copper oxide or discoloration increases the resistance of the contact surface and causes still more heating. The effect is always cumulative, and the heating increases until the parts overheat, deteriorate, or burn.

A loose connection on a thermally operated device, such as the heater of a thermal overload relay, may, because of the external heat developed near the heater, cause the overload relay to trip and stop a motor when the motor is not overloaded.

Loose connections frequently develop on the terminals of resistors. The alternate heating and cooling of the resistors cause temperature changes enough to loosen the bolts or nuts that clamp the connections to the resistor terminals. Excessive vibrations also may cause loose connections. The fact that a connection was once tight is no assurance that it will remain tight. Periodic inspections are advisable.

Excessive Temperatures

Overheated parts always indicate trouble. It is, however, often difficult to know when temperatures are excessive.

Resistors are operated safely at 350° C. rise above ambient temperature. but insulated coils generally are restricted to 85° C. above ambient. Solid-copper contacts are limited to a rise of 65° C., and copper bus work to a 50° C. rise.

Copper parts that are very discolored have been—or are—too hot. When in doubt, temperature should be measured by thermometer or by other means. It is best to know what the permissible temperature is and then measure it.

Thermally operated overload relays

should be in approximately the same ambient temperature as the motors they protect. If the relay is in a higher ambient temperature than the motor, it will trip when the motor is not overloaded. If the relay is in the lower ambient temperature, it may not trip in time to protect the motor. If the ambient temperatures must be different, some compensation for the difference can be made by proper selection of the overload relay heaters, or by providing a relay that compensates for the difference.

Grounds

Grounds are both useful and undesirable. The desirable ones are maintained easily because they require only good contact connections. An unexpected ground, however, is a serious personnel hazard.

Constant vigilance is required to prevent and eliminate undesirable grounds. They cause operating troubles and erratic, dangerous circuits. Because of them motors may start unexpectedly, motors may not stop when they should, and overload and other protective features may be made ineffective.

Grounds often occur in pushbutton boxes or similar confined spaces, where stray strands of wire may make contact at incorrect places. They occur when wires become chafed due to vibration on rough edges, such as conduit entrances. Conduits sometimes become wet from condensation or other reasons, and the insulation on the wires becomes watersoaked and of low insulating value. Conduits should, therefore, be installed so that moisture within them will always drain away. It sometimes may be necessary to remove the wires, clean the conduits, and install new wiring. Clean and dry conditions always reduce maintenance.

Long-Staple Synthetics

(*Continued from page* 133)

slivers is smoother and more uniform.

Sliver from the Pacific Converter is being combed not only because of the above points but also because imperfections in the tow are eliminated and "dandruff," which is caused by the cutting of the fibers, is removed.

After processing on the Pacific Converter or the card, the sliver should be gilled. One operation of intersecting gilling after the converter and two operations of intersecting gilling after carding are recommended.

Special Continental-type intersecting gill boxes are being built for this purpose. Can delivery is usually preferred. A high number of doublings (6 to 8), average drafts of 7, and speeds of about 40 yd. per min. are usually

LOWELL Shuttles

DOGWOOD OR PERSIMMON
FIBRE-COVERED OR PLAIN

1. Shuttle for carpet loom 2. Shuttle for automatic wool or worsted loom 3. Shuttle for plain worsted loom 4. Shuttle for automatic cotton loom (equipped with brass threader) 5. Shuttle for automatic cotton loom (equipped with cast iron threader) 6. Shuttle for silk or rayon loom (equipped with Paterson tension and fibre covered on one side)

LOWELL SHUTTLES, widely recognized for their quality for more than half a century, include automatic and non-automatic types for all kinds of textile fibres and mills. Lowell Fibre Covered shuttles prevent roughing-up of yarns and the covering is applied to stay. The wood is thoroughly seasoned, carefully dried and finished to specifications. Shuttles can be furnished with automatic tension eyes, if desired.

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IMPERFECTIONS

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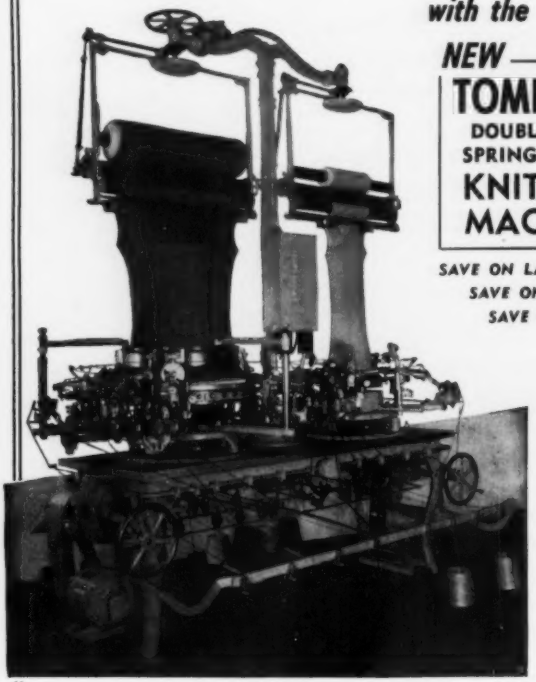
TOMPKINS
DOUBLE HEAD
SPRING NEEDLE
KNITTING
MACHINE



SAVE ON LABOR!
SAVE ON WASTE!
SAVE ON NEEDLES!

• 8" to 35" CYLINDERS

• 5 to 50 GAGES

write for complete data and cloth samples

Cutting out imperfections from knitted cloth has always been time-consuming and costly. New stop motion and furnishing wheels on the TOMPKINS DOUBLE HEAD MACHINE provide knitters with a much welcomed solution! *Imperfections are caught before they get into the cloth!*

New five-speed individual drive motors for each head provide easy, quick changes. Stop motion is conveniently located below the table —with nothing in the operator's way for removing cylinders or take-up! You get new speed and new economy PLUS the versatility of fabrics (fine silk underwear to heavy overcoating) for which Tompkins machines have been world renowned since 1846!

TOMPKINS BROS. CO.
623 ONEIDA ST. SYRACUSE 4, N. Y., U. S. A.

ESTABLISHED 1846 . . . over a century of continuous service to the knitting industry throughout the world

used. This type of intersecting gill box gives the best results for precombing gillings. The production is about 100 to 120 lb. per hr. per head.

The rectilinear comb used for the combing of synthetics is especially adapted for this material. Usually the wide comb (19-in.-web width) is used. It has a special coiler device that gives twist to the top so that its consistency is firm and the processing in the following operations is easier.

Some combs have special swords and counterswords. It is important that the combs be pinned in accordance with the denier processed so that the top is clean, yet no fibers are damaged.

The feed weight is around 4,000 gr. per yd. The top has a weight of about 200 to 240 gr. per yd.

The gauge should be set very wide (about 26 mm.). The usual noilage for long-staple synthetics is from 2 to 3%.

The production of one comb varies between 16 to 20 lb. per hr.

Pneumatic noil removers improve the efficiency of the comb and keep the combing department clean.

Since one operator can supervise between 10 to 16 combs, the combing is cheap and high quality of yarn is assured.

The combing department should have a high humidity, and temperatures should be between 75 and 80° F.

Drawing

The drawing operations are still a matter of discussion, and many mills are making tests to find the most suitable and most economical drawing system.

At present, for long-staple synthetics, the following main systems or combinations thereof are used or studied:

1. The American system
2. The modified Continental system
3. The Continental drawing system with porcupines

The accompanying Table No. 1 shows the sequence of the operations in these various systems.

In the first two to three operations, either pin drafters or Continental-type intersecting gill boxes are being used. The pin drafters give very good results in the processing of long-staple synthetics. Stock from 2 to 6 in. can be processed with drafts up to 10 and more. The machines operate at high speed, and the sliver produced has a good evenness.

After three operations of pin drafting, the sliver is usually reduced to a weight of 37 to 50 gr. per yd. depending upon the yarn count to be spun.

The pin drafters are used in the American system, but some mills us-

Duesberg-Bosson WOOLEN CARD and PERALTA MACHINE

(PATENTED)

Shown here: 3-cylinder set, with Peralta Machine. Also available in 2-cylinder and 4-cylinder sets.

All foreign matter entangled in the web as it passes from the doffer is pulverized by the two Peralta Rolls, thereby eliminating this foreign matter from the stock.

BUILT in two sizes, 78¾" and 72¾", this well-known woolen carding machine offers substantially greater production and noticeably improved quality because of inherent design features and operating advantages.

A new 2-cylinder carpet card now in operation in the Duesberg-Bosson Woolen Spinning Co., Jefferson, Mass., is causing great interest.

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Duesberg-Bosson of America, Inc.

Manufacturers of Woolen Machinery, Developed from a Background of Over 115 Years

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This is the amazing "before-and-after" story

Textile World, November, 1951

New Agents Clean Machine Parts by Cold Dipping

BEFORE AFTER

A remarkable cleaning job is claimed for Kleenapart and Kleenakarb, new cleaning agents developed by The Selig Co., 336-350 Marietta St., N.W., Atlanta 1, Ga. The agents will clean valves, gears, sprockets, frames, chains, screens, and all machine parts. The removal of oil, grease, dirt, grime, carbon, and other foreign matter is accomplished by a simple "cold dipping" process that requires no attention, it is claimed. Parts to be cleaned are simply immersed in Kleenapart or Kleenakarb for the required length of time, then removed, rinsed, and are ready for use or storage. Both products are listed by the Underwriters' Laboratories and are safe to use when directions are followed.

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Selig's Kleenapart and Kleenakarb were originated to meet the exacting requirements of the aircraft industry. Peacetime industries, one after another, quickly grasped these amazing benefits: Complete removal of oil, grease, dirt, carbon and other foreign matter from metal parts by a simple "cold dip" process. Long life and low cost are included with the many advantages of using . . .

Kleenapart-Kleenakarb

Clean Machine Parts by Cold Dipping

Manufactured only by

The Selig Co.

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A REVOLVING STEAM CONNECTION

Pipe Size 1/4" through 3"

Give Your Pipe Wrench a Rest

Here is the only rotating steam joint in the world good enough to be guaranteed to operate at least one year without any kind of adjusting or tightening labor. Most ROTARY UNIONS run much longer without such service . . . and they seal perfectly all of the time. Oh Happy Day for maintenance mechanics!

ROTARY UNIONS require no complicated piping and brackets and can be installed in a few minutes. When they become worn, as all equipment finally does, they can be factory reconditioned at a fraction of their orginal cost, and returned to you with as good-as-new guarantee.

Don't struggle with stuffing boxes, packing joints, and ordinary steam joints on your slashers, dry cans, calenders, printing, and coating machines. Save trouble, labor, and down-time by equipping them with ROTARY UNIONS. Write for Catalog 600W for full information.

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"WHERE *Good Connections* COUNT"

ing the Continental system have also adopted pin drafters.

A large number of mills is also using Continental-type intersecting gill boxes. They are usually built as multi-head gills with from two to six heads, and in the last intersecting passages up to eight heads.

The gauges are usually 22x17⅞x22 in. for the first intersecting-gilling passage and where three intersecting-gilling passages are used in the second. In the last intersecting-gilling passage, the gills are used in the gauge of 19-4-19-8¾ in. with ball or can delivery.

In the American system, three pin-drafting operations are followed by one roving operation on the Super-rover. High drafts, average 18, can be used, and good results are achieved with material of uniform staple. The flyer-spindle speed is around 850 rpm., and the delivery speed is 18 to 20 yd. per min.

Formerly these rovers were suitable only for fibers from about 2 to 4 in. Through improved drafting assemblies, longer fibers can be processed; but short and long fibers sometimes cause difficulties, and the yarn produced is often "hairy" and "fuzzy."

The modified Continental system employs an open gill box with flyer spindle in the roving operation. The open gills with a single faller field permit a close setting and good fiber control between the last faller and the front draft rolls. Each head has four flyer spindles that operate at approximately 850 rpm. Drafts of up to 16 are possible.

The Continental drawing system with porcupines employs one open-gilling operation and one porcupine-drawing operation after the intersecting gillings. The open gill box has a single faller field with 17 fallers, of which 12 are always in action. The distance between the last faller and the nip of the front rollers can be adjusted to about 1 in. so that long and short fibers alike get constant positive fiber control. The speed of the machine is approximately 30 yd. per min.

The second machine is the porcupine drawing frame that permits drafts up to 10 with a Superdraft attachment. The porcupine frames employ rolls made of brass covered with steel pins. These rolls are used between the front and back draft rolls.

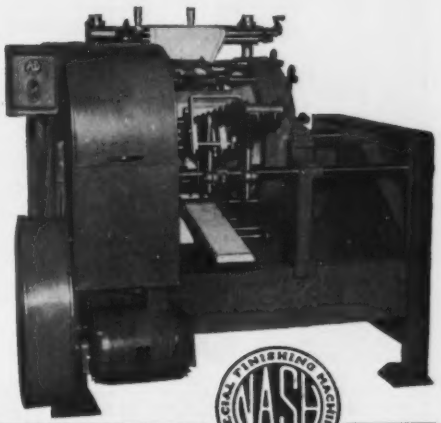
In this system, two passages of roving have to be employed, but the higher speeds of the machines make up for it. The yarn produced is of high quality, is very smooth, and is regular.

A processing plan for 30s cotton (45s worsted count) on this system is

SAVE the Expense of Hand Washing with the No. 89 Nash AUTOMATIC BOBBIN WASHER

Washes flanged bobbins at 28 pieces per minute!

Textile mills throughout the country are finding the Nash No. 89 a time and money saver. It's a ten-spindle machine that does the entire washing and wiping operation automatically from start to finish. Eliminates the time and expense of hand washing. No dirt is left on the bobbin which would soil the yarn on the finished fabric. The cleaning solution used has a 140-degree flash point and is not toxic, assuring safe machine operation. The solution has no harmful effects on yarn, either natural or synthetic.



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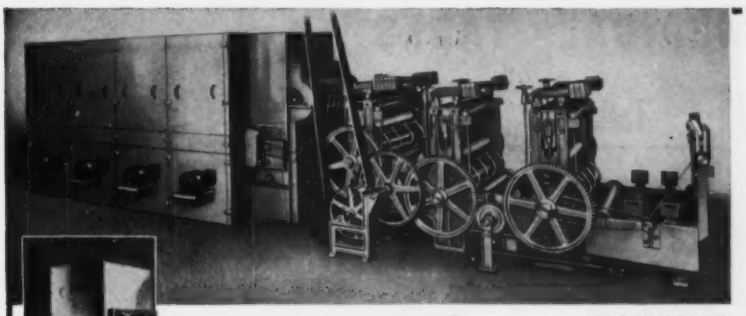

Conveniently located inspection doors at doffer end.

SARGENT'S

Flexible • Modern • Efficient

BACKWASHER and BACKWASH DRYER

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

☆ **Designed to Meet Varying Production Requirements**

BACKWASHER—Available with one to five bowls. 44" wide bowls give increased liquor capacity. SARGENT'S rearrangement of top squeeze roll levers allows easy accessibility for operator; permits more than double usual number of ends to run through machine. Convenient working space provided by development of pneumatic loading for squeeze rolls, eliminates weights, rods, springs and adjusting wheels.

BACKWASH DRYER—Available with 29" or 44" aprons. Wire cloth or perforated plate aprons assure softer feel, better color, greater fibre strength. Warm air circulated by motor driven pressure-type fans passes alternately through extended surface heating coils and fibres. From 14 to 60 ends dried at one time. Available in production capacity of 100 to 600 pounds per hour, with 3, 4, 5 or 7 circulating fans.

Write for Complete Details

SINCE 1852

C. G. SARGENT'S SONS CORPORATION

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A. L. MERRIFIELD — 318 Grove Ave. • Cincinnati 18, Ohio

W. S. ANDERSON — Carolina Specialty Co. • Charlotte, N. C.

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RUGGED in design . . . LIGHT in weight!
MILTON GIVES YOU TRUE DIMENSIONAL STABILITY without objectionable deflection or distortion!
it takes GOOD BEAMS to make good warps!
PROVEN IN SERVICE
warping unprecedented yardages of monofilament; fine denier, low turn nylon; and rubber yarns
MILTON NYLON & RUBBER TRICOT BEAM
Forged, heat-treated aluminum alloy heads and barrels permanently joined with continuous heliarc welds.
WITHSTAND EXCESSIVE PRESSURES
THERE'S A MILTON BEAM FOR EVERY APPLICATION . . .
permanent mold TRICOT BEAMS
SECTION BEAMS
WRITE FOR BULLETIN 49-A for complete information
MILTON MACHINE WORKS, Inc.
DESIGNERS – ENGINEERS – MANUFACTURERS
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SPHERICAL TANKS on Tubular Towers

• The COLE Spherical Tank on Tubular Tower is a pioneer in its field. We design and erect special tanks of this character. It provides an attractive and serviceable unit —economical to maintain, efficient in service and pleasing in appearance.

Write for special booklet on these modern welded Spherical Tanks which provide gravity water pressure and for copy of latest Cole catalog—"Tank Talk."

R. D. COLE MFG. CO.
NEWNAN, GA. Established 1854

TANKS TOWERS CYLINDERS VESSELS

shown in accompanying Table No. 2.

The ring spinning frames used for long-staple synthetics should have high-draft devices, good fiber control, and a large ratch. Several different kinds of frames are available for this purpose.

The roving is put either two ends up or one end up on the creel of the ring spinning frames. Many mills prefer double roving on the ring frame and claim that better results and stronger yarns are obtained. Other mills are satisfied with yarn produced from a single end up, which reduces the number of roving frames needed. It is of special importance to keep the proper humidities and temperatures in the various departments to obtain good results.

Style Change and Overhaul

(*Continued from page 143*)

Experience has been that a wobble in the cylinder will result in dropped stitches, and makeup is difficult. Broken needles are likely since a wobbly cylinder allows the needles to drag on the inside latch ring, or the latch-opening device.

10) Knives are carefully inspected, sharpened, or replaced.

During the overhaul, the machine and all its parts are thoroughly cleaned with a solution of half gasoline and half varsol, and then each part is lubricated with light oil before replacing.

After the knitting machine is reassembled and properly adjusted, it is tested before being returned to the production line. During this test run, all tensions are inspected and reset. Tensions that do not hold properly are replaced rather than polished.

This major inspection and overhaul at style change appears to be a major and time-consuming task. Experience has been just the opposite. It requires but little additional time to do a thorough job. The big advantage is that very few adjustments are necessary once production gets under way, and seldom has there been a breakdown. Richmond is saving by using this system.

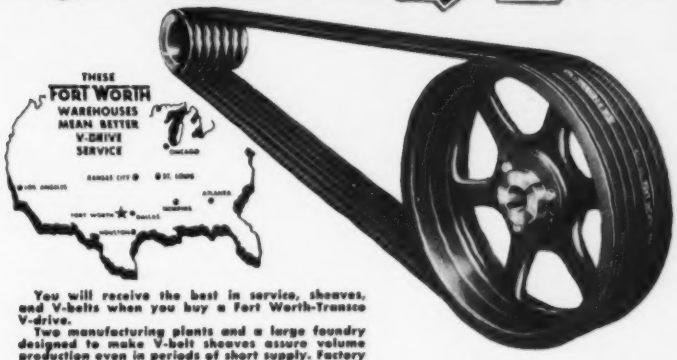
Current Weaving Topics

(*Continued from page 139*)

by fixer's section than by individual looms. There is some tendency, however, to go to individual records for closer control. Costs may not be reduced, but the foreman will at least know which types of looms cost the

SEE FOR YOURSELF—Next time try a

FORT WORTH TRANSCO QD SHEAVE



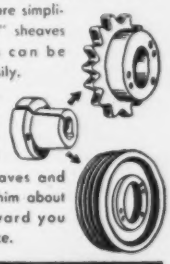
You will receive the best in service, sheaves, and V-belts when you buy a Fort Worth-Transco V-drive.

Two manufacturing plants and a large foundry designed to make V-belt sheaves assure volume production even in periods of short supply. Factory warehouses supplemented by numerous stocking distributors provide quick delivery on stock sizes.

The advantages of "QD" construction are many. We will be pleased to explain them to you at any time.

"QD" HUB ALSO FITS NEW FORT WORTH "QD" Roller Chain Sprocket

Speed changes are simplified and "spare" sheaves and sprockets can be carried more easily.



If your favorite distributor doesn't stock the Fort Worth QD line — both sheaves and sprockets — tell him about them. He'll reward you with better service.

Write for name of nearest distributor and for descriptive catalogs on "QD" Sprockets and Sheaves.

OTHER FORT WORTH PRODUCTS
ROLLER CHAIN SPROCKETS
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

WAREHOUSES:
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FORT WORTH STEEL AND MACHINERY CO
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SCHLUMBERGER COMB

for French-Type

Worsted Mills

OUTSTANDING for ready accessibility of all operating parts (including cylindrical comb) and for remarkable cleanliness of product. Settings made quickly.

Also other worsted preparatory machinery

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Grayson-Millis
PRE-SETS THEIR
Full Fashion
HOSIERY
with the
"H-W" ®
CONDITIONER

Reduces pull threads.
Increases efficiency.
ELIMINATES ALL
PREBOARDING.
Saves money.
Improves
quality.
Dependable.
Minimum Maintenance.
WRITE FOR BULLETIN H1

Grayson-Millis Hosiery Mills, Incorporated
Manufacturers of Full Fashion Hosiery
Independence, Virginia

Mr. Phillip H. Friend October 25, 1951
The Industrial Dryer Corporation
Stamford, Connecticut

Dear Mr. Friend:

We have been using one of your H-W conditioners for approximately one year now and have been most pleased with the results we have obtained from the use of this equipment in the processing of our full fashion hosiery.

We use this to steam 15 and 30 denier in both 51 and 60 gauge goods and have not only reduced our pull threads by approximately per cent but have also increased our efficiency in production in the seaming department through the use of the steaming operation. We are also using this steaming operation to eliminate one boarding operation, therefore we can truthfully say that this machine has been not only a money saver but a wonderful machine to improve quality.

I would also like to say that during the time we have had this machine that we have had practically no maintenance and upkeep cost on it, and it has operated constantly every day since its installation.

Kindest personal regards.

Yours very truly,

GRAYSON-MILLIS HOSIERY MILLS, INC.

Henry A. Millis, Jr.

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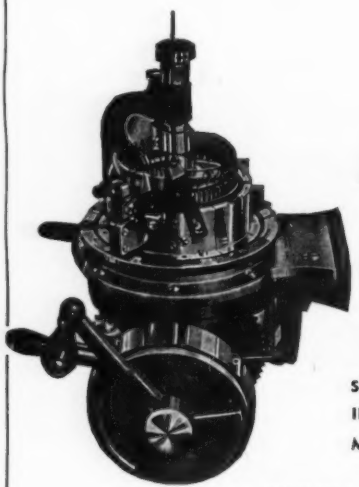
THE INDUSTRIAL DRYER CORPORATION
STAMFORD, CONNECTICUT.



Argyle
production
AT
MINIMUM COST

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SEMI AUTOMATICS ARE PRODUCING ARGYLES EFFICIENTLY IN MILLS THROUGHOUT THE WORLD

AVAILABLE IN
4" DIAMETER 80-112 NEEDLES
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Complete Range of Accessories—For Information Write

GEORGETOWN HARLEY-KAY-MARSLAND LTD. ONTARIO
ESTABLISHED 1906
CANADA

most to maintain and which of his looms are out of line.

Practically all the mills reported that records on shuttles are kept. In several cases these records extend to checkstraps, pickers, picker sticks, thread cutters, binders, and front-box plates.

KNOTTER MAINTENANCE

Describe your maintenance procedure for knotting machines, portable and stationary.

Best results are obtained with a weekly cleaning and going over, according to most of the replies on this subject. Here are some of the ways that maintenance is handled.

"Each operator is held responsible for his own machine. The man on the first shift, who is the oldest operator, is held directly responsible for all machines."

"We have one man who looks after our portable and stationary knotters. He makes all repairs and keeps the machines in good condition. They are cleaned and oiled at the end of each shift, gone over thoroughly each weekend by taking the machine apart."

"We eliminate major overhauling by periodic inspection by overseer or foreman in conjunction with careful maintenance by each operator under supervision of the head machine operator."

"Each operator blows off and oils his machine at the end of his shift. One man does all the repair work and cleans each machine thoroughly once a week."

"Our machine operator oils the knotter twice a shift and cleans once a shift. The best operator does the fixing."

"Tying-in machines are taken apart and cleaned thoroughly every 240 hr. of plant operation."

"We disassemble our machines once a month for cleaning and checking. We switch operators at regular intervals to another machine. By doing this we feel that all machines will be maintained equally."

"Our machines are blown off thoroughly once each shift. No other maintenance is performed unless the machine is not functioning properly. Each machine is completely overhauled every five years."

HUMIDITY CONTROL

When weave-room humidity is uniform, can you operate at a lower percent with better results in cleaning, rust, and efficiency?

The answer to this one was a pretty general "Yes." Some mills

STEAM

FOR HEAT
OR PROCESS

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 318

SUPERIOR COMBUSTION INDUSTRIES, Inc.
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SUPERIOR STEAM GENERATORS

3 Features designed for LOW COST DYEING

1 This Dyebox is Fully Enclosed

— to keep heat and moisture where they belong, in the box; to save fuel, steam, water and dyestuffs; . . . to end dyehouse fog; to increase production per man hour; to give you better work.

2 This Dyebox is Stainless Steel

. . . to clean in seconds with a quick rinse; . . . to eliminate boil outs; . . . to end discoloration of fabric; . . . to change from dark to light runs in a few seconds; . . . to give you more runs per day at lower cost.

3 This Dyebox is Blickman Built

. . . to be as accessible as an open box with none of the disadvantages; . . . to give dyers every design feature for speedier loading, heating, lacing, unloading and changeover; . . . to assure trouble free operation for many years.

Write for bulletin 7034

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STAINLESS STEEL TEXTILE EQUIPMENT
Dye Boxes, Linings, Cylinders, Dry Cans, Hoods, Tanks

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CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
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SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
The Starches and Gums which Penick and Ford manufacture for polishing twine and cord have been developed for every phase of this operation.
Lets try their recommendation.
Jim

TO CHECK RELATIVE HUMIDITY REMEMBER

Bendix Friez MAKES the RIGHT INSTRUMENT at the RIGHT PRICE for EVERY JOB!

Model 185 Hygrodial Precision Humidity and Temperature Indicator

Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 6" wide, 2½" deep.

Model HA/2 Hand Aspirated Psychrometer

Accurate readings obtainable without special skill. Psychrometric readings can be taken at any point desired however inaccessible.

Model 160 Portable Humidity and Temperature Recorder

3" x 5" charts, 10 or 30 hour records. Modern design...handy for small space and difficult locations ... built to meet unusual conditions.

Model 594 Hygrothermograph

The foremost relative humidity recorder for laboratory, factory, and office use. Scientifically designed for accuracy and dependability.

Model 573 Motor Aspirated Psychrometer

Designed to determine wet and dry bulb temperature with laboratory accuracy—Motors supplied for use on 115 V., 50 cycles or 60 cycles.

Model S/1 Pocket Sling Psychrometer

A small, low cost instrument. Thermometers graduated in 1° increments from +35° F to +110° F. Furnished complete with case and psychometric slide rule.

Model 550 Sling Psychrometer

Manufactured to U. S. Weather bureau specifications. Thermometers graduated in 1° increments from −20° F to +120° F. or −35° C to +49° C.

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qualified their agreement with comments regarding the size formula and the percent moisture left in the warps after slashing. Actually, some plants have reduced humidity up to 10% after they got a good system installed.

One mill, however, reported lower efficiency every time humidity was lowered.

Several mills reported better results after installing air-changing equipment.

"We found that if you can keep 7½% moisture in warps after slashing," said one superintendent, "you can reduce the relative humidity in the weave room without ill effect. Our studies indicated this, and we dropped from 88% to 80%. Moisture left in the warp plays a major part in reducing weave-room humidity. We now have less cleaning and a more comfortable room."

CLOTH GUIDES

Which guide have you found to be most satisfactory—air, mechanical, or electrical?

100% of the mills that answered this question prefer air guides. Among the reasons given; less maintenance, more sensitive control, and easier to fix. In one case, the answer indicated that mechanical guiders work fairly well on slow-moving cloth, but that air guiders do a better job on fast work.

Synthetics on Woolen System

(Continued from page 103)

that much better results are obtained in spinning all fibers with lightweight card spools. Lighter spools not only decrease the number of ends down in spinning, but they maintain a full, round roving that in turn gives a more even spin. It is obvious that the first few yards on the spool at the card are the last yards off the spool at the spinning frame. This means that the center of each spool is subject to double compression—once on the card and again on the spinning frame. Unfortunately, most of the synthetics are sensitive to this tendency to flatten, and anything that can be done to cut down the weight of the package is helpful in this regard. We have run spools with great success that were only one-third the weight of the usual wooden card spool and have reached yarn counts that were impossible with the heavy spools.

Drafts Depend on Many Factors

Obviously, a carder must work in cooperation with the spinner. This brings up the question of suitable drafts on the spinning frame so that the fibers will receive the best treat-

ROME SOAP MFG. CO.

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MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
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TENTERING and DRYING MACHINERY

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RARITAN, NEW JERSEY

Be sure you get Genuine **ALLEN**

HIGH-SPEED WARPER BEAM HEADS

Insist upon the genuine ALLEN Beam Heads, made only by Allen Beam Company. These Heads have been developed, perfected and PROVEN during 36 years. Of kiln dried hardwood lumber, they are scientifically constructed with a wide margin of safety to successfully resist ordinary use and extraordinary abuse . . . through long years of service.

Put your faith in the ALLEN backlog of experience and you will avoid the troubles of splintered and sprung beam heads and consequent damage to yarn and difficulty in processing . . . which often result from accepting substitutes.

ALLEN HEADS will get your goods there SAFELY . . .

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BEAM COMPANY
High Speed Warper Beams
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Adjustable Loom Beam Heads

General Offices — 151 River Road
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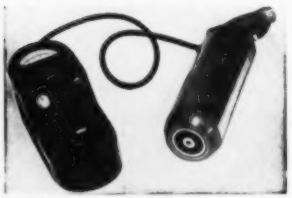
Representatives in all Textile Localities
and all Principal Countries of the World.

"GOOD WARPS ARE MADE ON GOOD BEAMS"

two
great models
for
TESTING
MOISTURE
CONTENT
in wool, cotton,
rayon and nylon



MODEL PD-1 for textiles in loose or compressible forms—3" penetration.

MODEL K-2 for textiles in cones, rolls, beams and similar forms.

10-DAY FREE TRIAL!

Try one of these moisture testing instruments for 10 days—use it, test it and prove its superiority. Send samples, moisture range and Purchase Order to cover trial period. No obligation!

Quick, Accurate Readings

In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write today for complete details. Specify type of material to be tested.

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Dept. G
1510 W. Chestnut St. Alhambra, Calif.

ELECTRONIC MOISTURE REGISTER
Mfd. by
Moisture Register Co.
1510 West Chestnut St.
Alhambra, California

ment. The carder must be governed in his roving weight by the draft that is possible for the spinner to use.

While we know that on 60s grade wools and finer it is possible to use drafts as high as 1.6, we have found by experimentation that on rayon drafts between 1.3 and 1.35 give the most acceptable yarn. It is allowable to draft crimped rayon slightly higher than uncrimped rayon. These factors naturally have an effect on the roving weight delivered by the card.

There is no hard and fast rule about the draft that should be used because several factors affect the ability of any given fiber in that respect. A highly crimped fiber will submit to higher drafts than one with less crimp or no crimp. Fiber length has a bearing; generally the longer the fiber the higher the permissible draft. With regard to fiber length, it is well to bear in mind that the length of the synthetic fibers in a blend is usually longer than the average length of a wool fiber. This higher average length has a bearing not only on the draft, but it is also a point to be watched so that the blend does not contain too many fibers that are longer than the width of the tape will accommodate. A failure in this last item will not only cause robbing, but will cause untold annoyance by having ends rolled together in the rub motion.

Another feature that will affect the permissible draft is the type of finish on any particular synthetic fibers. Different finishes affect the slipperiness of a fiber in different ways. That feature must be appraised by experience, and if the fiber is too slippery, a lighter roving will have to be made. Of course, this slipperiness cannot be too severe or the roving itself will not hold together.

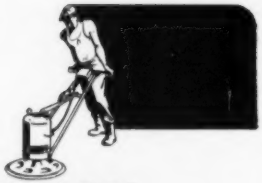
Roving-Frame Tests

(*Continued from page 151*)

of the package in the creel and on the doffed bobbins. The total number of units handled is usually a fair basis for judging the amount of work done by an operator on a job.

A standard number of units is generally established for each type of work; and if the number handled exceeds this standard, some assistance is usually given to the frame tender in the form of cleaners, creelers, or doffers. Units handled in this particular summary are close to the standard, and thus it is indicated that the operating work-load is not excessive.

THIRD, end-breakage figures in the summary are taken from the ends-down operating tests. These figures



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PROCESS *makes*
CEMENT FLOORS
tougher!

No chance for a "softie" when you specify Kalman floors. In surfacing, Kalman "absorption control" densifies and pre-shrinks the topping, producing concrete of the highest compressive value — a uniformly tough surface of maximum durability.

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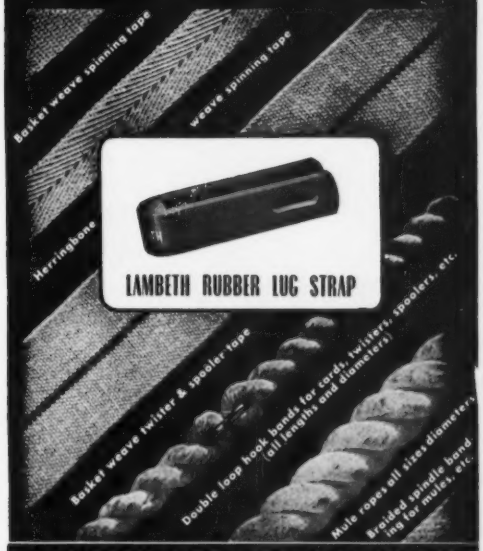
FOR SPINNING, TWISTING, SPOOLING, WEAVING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weave spinning tape
Herringbone
LAMBETH RUBBER LUG STRAP
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Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
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By every standard of comparison EMPIRE Textile Mill Crayons are the BEST . . . The result of careful research and study they are the result of more than a century of experience by Crayon engineers . . . When marking COUNTS you can always COUNT on EMPIRE Textile Mill Crayons.
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Colored yarns and warps
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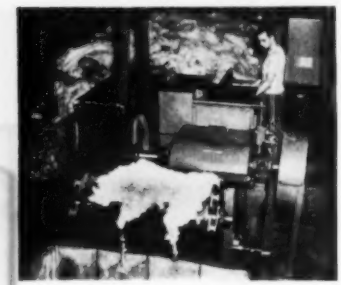
3 Efficient

TAYLOR-STILES CUTTERS IN A SINGLE PLANT



In the plant of a leading commercial processor of textile waste, three Taylor-Stiles cutters make it possible to cut several types of waste simultaneously.

While their No. 36 Cutter, shown above, is cutting nylon waste, their No. 15 machine can be cutting tops.

The "Giant Junior" was the first Taylor-Stiles fiber cutter purchased by this concern. Its versatility and efficiency led to the purchase of the larger volume cutters that now handle the very considerable and varied production of the plant.

Send for description of the Taylor-Stiles cutter to meet your cutting requirements economically.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

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are a good indication of how well the work is running. Excessive end breakage increases the work of the tender and reduces the production of the frame. Poor running work on the roving frame generally means poor running work on all the following processes and in finished fabric. The end breakage shown in the above summary is within reasonable limits, but there is indication that greater care should be taken in back-stock creeling and piecings.

FOURTH, the labor-analysis summary is taken from timestudy sheet totals. The separation of operations into "stop" and "run" operations is important in this analysis. Stop operations control in a large degree frame efficiency and production. Comparison of the average time taken for each "stop" operation with the standard time for that operation will often give the reason or reasons for excessive frame stoppage.

The actual time for doffing, in our summary, is 6.47 min. per doff while the standard time is 12 min. per doff. This reduction in doffing time was in this particular case caused by unexpected assistance received from alley mates. That this assistance was reciprocated is shown by the time listed in the labor analysis as "helping others."

Total "stop operations" on the summary for two frames amount to 15.19%. One-half of this amount (7.6%) deducted from 100% gives close to the operating efficiency of each frame. If there is any efficiency discrepancy, the front-roll speed of the frame should be checked for production rate.

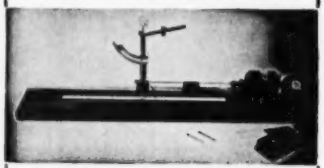
FIFTH, wages are determined from the basic hourly rate, on the type of frame and work, multiplied by the hours run. This amount is divided by the sum of the base hanks on the frames run times the price per hank. Base hanks are obtained by multiplying the 100% production in hanks by the standard efficiency of the frame.

A check on our summary shows that the worker's earnings slightly exceeded base pay on the frames. This excess is a good indication that the price per hank is set fairly, and that frame efficiency is up to standard.

These compact summaries have proved useful to our particular superintendent and his overseer in checking operation and production results. All the factors of the five important functions of operation can be brought together for a quick, effective examination. Loss of production and/or poor running work can be detected, and causes can thus be quickly located and remedied.

And when discussions arise as to

PRECISION TWIST TESTERS



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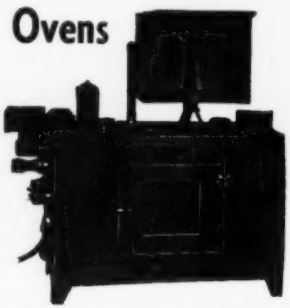

For accurate testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼" both 6" deep. Occupies table space 20" x 40".

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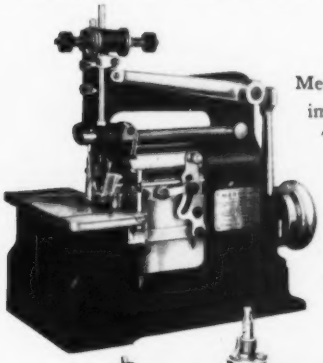

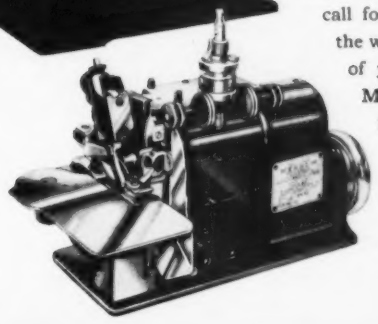

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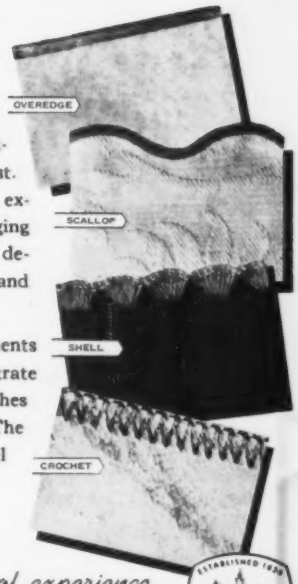

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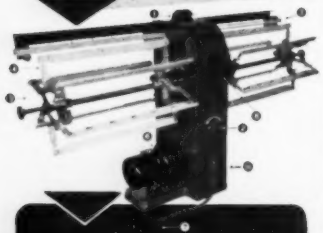

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The most radical development in skein reeler design in more than forty years.

Operator efficiency may be increased from 25% to 100% depending on yarn processing methods.

Automatic features eliminate the necessity for constant attention, permitting one operator to service several machines.

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work loads, new job assignments, piece-rates, and other work details, all salient facts are presentable easily in a simple form understandable to the employee.

1951 Cotton

(Continued from page 119)

verse its field and run in the wrong direction.

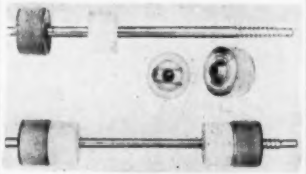
On November 2 and 3, 1951, this upper Delta area and Mississippi suffered a severe freeze. The immediate effect of a heavy frost is to kill the plant. A dead plant sheds its leaves and ceases to function as a cellulose factory. The bolls remaining on the plant usually open as a result of the freeze regardless of their development, and the net result is the production of fiber either partially or wholly immature.

What does it all mean? Suppose we take a look at the production and ginning figures at the time of the big freeze. The indicated crop as of November 1 for Mississippi, Arkansas, Tennessee, and Missouri was 3,880,000 bales. By November 14, 2,941,250 bales had been ginned, leaving about 1,000,000 bales or approximately 25% of the Delta crop to be harvested. These bales will reflect the effect of frost in their physical characteristics. We will have some very good cotton from the Delta, but we will also get some very bad cotton.

This big freeze did not confine itself to the Delta area alone—it extended through Oklahoma and the High Plains of Texas. Oklahoma produced about 500,000 bales, and half that amount was ginned by November 14. But more serious damage has been done to the crop on the High Plains.

The West Texas crop is estimated at 1,300,000 bales, and reports show that only 262,000 bales were ginned by November 1 when the freezing rains and subsequent cold front hit that area. The freeze was hailed as a boom to mechanical harvesting because it provided a natural defoliant, but its effect on the maturity and fineness is anything but encouraging. This is the area mill men look to to furnish coarse, harsh cotton for medicinal and many industrial uses. The early freeze will reduce the greatest portion of this crop to spots and stains with the usual softness peculiar to those low grades from that area.

The Southwest and California areas are at the peak of their harvest at this time (Nov. 30), and all indications are for an excellent crop. There seems also to have been a general advance in tensile strength of cotton this year even through the Southwest. Recent tests



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We make these Spindles to your specifications so you can use two different length bobbins on the same spindle, on the same machine without changing the spindle.

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Interchangeable repair parts and units for modernizing, standardizing brush motions, even pressure roll stands.

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Carefully manufactured gears in stock for combing, gilling and spinning.

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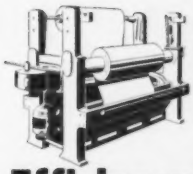

AN ounce of preventive maintenance *now* means no let-down of loom efficiency *later*.

You can simplify periodic overhaul of your looms, knitting machines, *all* heavy equipment with fast-working Oakite Composition No. 99. Simply make up a solution of one part O. C. 99 to twenty parts water. Apply with saturated rag. Let soak for five minutes, then wipe dry.

Water-mixed Oakite Composition No. 99 eliminates fire risk. It's easy on the hands. Pleasing pine odor makes it pleasant to use. For complete details, demonstration, contact your local Oakite Technical Service Representative or write Oakite Products, Inc., 42 Thames Street, New York 6, N. Y.

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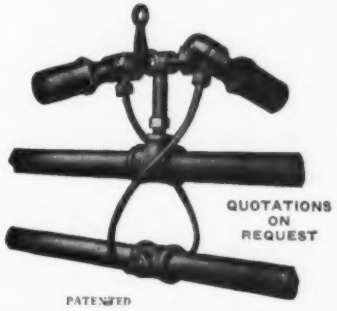

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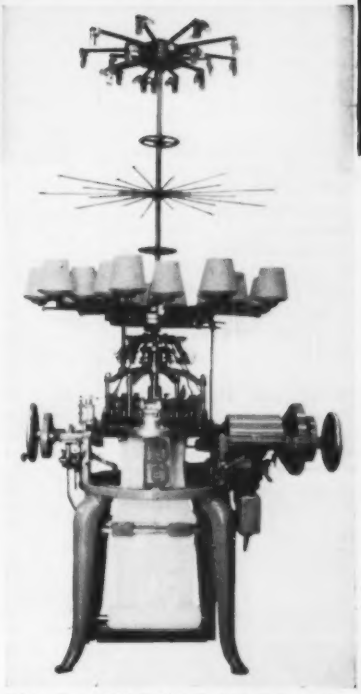

Brinton Type MF-RB Multiple Feed Rib Body Machine, 18 Feed 16 cut automatic

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"Wesco" Electric Stop-motions are known for the company they keep with justly famous manufacturers of knitting machines.

Greater production, versatility, simplicity of operation are features of "Wesco" as they are features of the machines they serve. When you purchase new machines —*Specify "Wesco" Electric Stop-motions.*

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of general receipts from California showed Pressley breaks of 95,000 psi. and better.

About 70% of the crop has been harvested (as of Nov. 30) and should be of excellent character. This does not imply that the remaining cotton will be altogether bad, but the adverse weather experienced throughout the belt in the past 30 days will have its effect on much of the cotton now in the field as well as the new crop estimate due next week.

The weather-damaged cotton should be readily recognized in lowered grades, and much of it will have an unnatural softness about it that characterizes frosted cotton.

Saco-Lowell

(*Continued from page 115*)

thoroughly opened through overbeating. The great advantage with this arrangement is found on the card. Because of thorough opening and absence of bunches, the lap is more firmly held by the feed plate of the card. There is less plucking because of the better distribution of the fibers under the feed roll across the lap, and there are fewer thin places between thick spots that are fed through without enough pressure to hold. The more even feed at this point allows the fibers on the cylinder to pass smoothly under the flats and does not crowd the fibers into the wire as badly as usual. The card is thus permitted to do its work more efficiently.

In view of the increasing amount of seed coatings and immature seeds with fiber attached that is occurring in the bales, the newly developed universal grid bars are used under the picker beaters. These bars are so arranged that they can be adjusted to or away from the beater as a set, and each individual bar can be set separately from the others. With this arrangement, the best possible setting for the type of cotton used can be quickly determined. This results in an increase in the amount of cleaning up to 100%. Examination of the droppings from these bars will show that most of the white fibers appearing in the droppings are attached to broken seed or to immature seed. By removing these without breaking them up, the amount of specks and seed coatings in the yarn is definitely decreased.

Since the development of the lap meter, it has been generally noted that the first 2 yd. of the lap that are wound on the lap roll are 6% to 10% heavier than the average weight of the yards in the lap. The generally accepted explanation of this was that the beater picked the fringe off the evener when the machine stopped at

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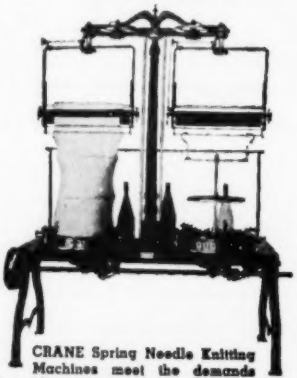
SPRING NEEDLE KNITTING MACHINES
Speed - Quality - Low Cost



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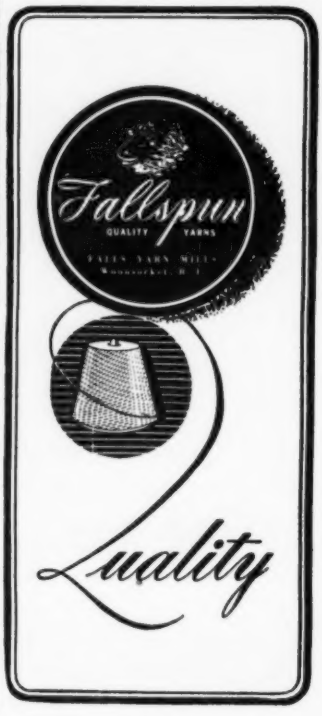

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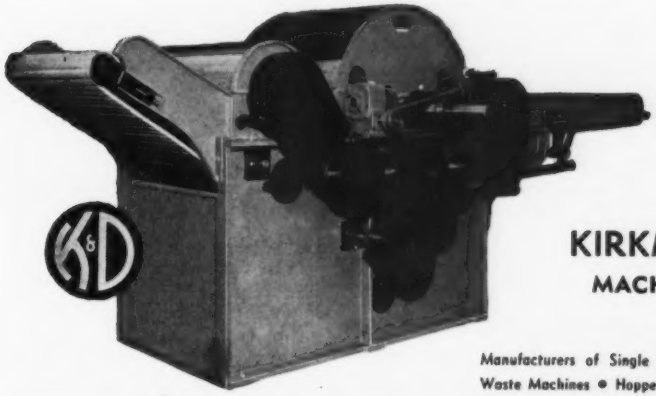
The revolutionary new principle of shredding waste twice on a single cylinder—more completely and with less stoppage than other machines employing two cylinders—has cut waste processing costs in half. Learn for yourself the profits in K&D 10-point superiority. Write today for illustrated booklet, cost, and complete details.



1. Gives double action with better results on a single cylinder.
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5. Occupies just half mill floor space.
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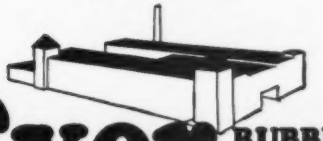

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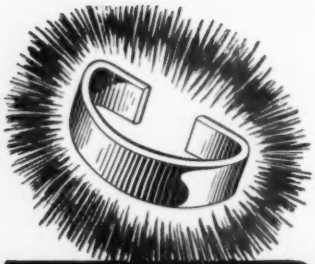

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The right ring traveler does any spinning or twisting job better. Have your friendly Dary Representative advise you on the most profitable choice.

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full lap. This additional stock thrown on the screens was supposed to account for the heavy yards. Investigation showed that if this were the cause, the whole extra weight would appear in the third yard, as approximately 2 yd. are already on the screen and through the calender when the knock-off occurs. The real cause of these heavy yards is the impossibility of applying the pressure on the lap roll at the start of the lap until the pressure is built up through the rolling up of the lap. It was impossible to apply any great amount of friction through the brake and pulley until the force was built up by the increase in size of the lap. This led to the development of the pneumatic rack control that is applied to these pickers.

An air cylinder replaces the old brake and pulley friction. When the lap is started, the racks are immediately brought in contact with the lap roll and apply full pressure between the lap roll and the calender rolls at the very start of the lap. Consequently, the draft between the 9-in. rolls and the 7-in. rolls is effective in the first yard as well as in the remaining yards of the lap, and the first two yards are approximately the same weight as the following yards. Not only does this device reduce the variation in the first 2 yd., but it also provides a more nearly uniform pressure during the formation of the lap. It also permits a somewhat larger lap to be made with same diameter as the lighter lap made with the friction. It relieves the laborious task of raising and lowering the racks and permits an operator to keep his machine in operation a greater percentage of the time. Thus, this pneumatic control results in a more nearly uniform lap, a longer nap, and increased over-all production of the pickers.

We feel that this opening and picking setup provides the means of accomplishing the objectives outlined in the opening paragraph. We have provided adequate feeders to give us a proper blend. Our opening and cleaning machinery has been tested and proved in actual operation. Proper use of filters will permit maintenance of uniform atmospheric conditions, and the development of the fringe roll and the pneumatic rack control has enabled us to present a greatly improved lap to the card room.

Whitin

(*Continued from page 117*)

RAKEHEAD DISTRIBUTOR (RETURN TYPE). The rake distributor is designed to deliver stock from the overhead condenser to the breaker feeders of the one-process pickers. When all five of the hoppers are full, any cotton in the distributor that passes the last hopper will depress a feeler plate at the end of the distributor. This feeler plate operates an electrical time switch to cut the electric power in the control circuit and thus stop the blending feeders in the opening room. The cotton in transit through the pipeline flows from the condenser to the distributor, and it continues to circulate in the distributor until the pickers call for stock. A suitable setting of the time switch on the distributor will cause the blending feeders to operate so that the pickers will be adequately supplied at all times with very little stock recirculating in the distributor.

ONE-PROCESS PICKERS. Since we have determined that the required picker production is 1,625 lb. per hr., five pickers are needed, each having a production of 325 lb. per hr. Four pickers with a production of 406 lb. per hr. would produce work of an inferior quality.

The one-process picker recommended consists of the following sections:

Breaker feeder with 18-in.-dia., two-blade beater section with cages.

Intermediate Feeder with No.-3 evener motion.

18-in.-dia. Kirschner-beater section with cages and calender section.

We feel that the breaker feeder is a necessary part of the one-process picker to obtain a lap of equal density from one edge to the other. We are pleased to observe that several mills have come to this same conclusion in the past few months. After they have added breaker feeders to their machines, they have reported much better results.

When the stock reaches the first two beaters of the picker, the greater percentage of the large trash has been removed and sharp, violent blows are required at this point to remove the small trash. Therefore, we recommend the 18-in.-dia. two-blade beater running at 1,000 rpm. to be set ⅝ in. from the 2¼-in.-dia. feed rolls. The beats per inch here should be from 10 to 12 at each of the two three-blade beaters.

The supply of cotton in the hopper of the intermediate feeder is held within very close tolerances by a sensitive swing rake in the hopper that controls the flow of stock from the blade-beater section. Since the feed rolls of the blade-beater section run at a constant speed to insure that all of the stock receives the same number of blows per inch, it follows that all of the stock delivered to supply the

intermediate hopper has the same density.

To improve lap uniformity, the pin and bottom aprons of the intermediate feeder are driven from the evener motion so that a constant supply is furnished to the evener motion in order that this motion is not required to correct for wide variations in the amount of stock presented to it.

The No.-3 evener motion is a single feed-roll type, and the Kirschner beater beats directly from the feed roll and pedal nose. In the present case, cotton-type pedals would be furnished. These pedals are adjustable in that the "bite" or holding point of the cotton between the pedal and the feed roll may be changed in relationship to the points of the beater pins. This adjustment allows an independent setting from the pedal nose to the beater for cleaning and a setting of the bite to the beater for length of staple being processed.

In this study we recommend a setting of 3/16 in. from the evener or feed roll to the set of Kirschner-beater pins that extend the farthest, and a "bite" setting of ¼ in. plus the staple length. The beats per inch of the Kirschner should be between 46 and 48.

AEROTURN DUST COLLECTOR. The overhead condenser fan exhausts into a Model B18-2-72 Aeroturn dust collector. The filtered air from it is returned to the opening room by pipe because the air from the overhead condenser is drawn originally from the opening room. If this air were discharged into the picker room, a pressure build-up would result, especially in a tightly, well-constructed modern mill.

We know from experience that the above organization consisting of blending feeders, feed table, Spirawhirl cleaner, two downstroke cleaners, cage sections, overhead condenser, distributor, and two-beater one-process pickers will produce excellent laps from 1-in. strict-low-middling cotton.

Aldrich

(Continued from page 118)

blending feeders receiving cotton from different lots of bales.

The more thoroughly the cotton is torn apart in the blending and mixing feeders, the less work the opening machinery will have to do, and the easier the cotton can be cleaned. We have therefore devoted a good deal of attention to designing blending feeders that will tear the cotton up finely and not deliver lumps to the feed table. Our blending feeders are fitted with a special device that makes it impossible for large lumps to get out of the machine. Our feeders are also provided with an automatic, self-feeding device so that the attendant does not put cotton in the feeder but merely places it on an automatic door that will deliver the cotton to the feeder when needed. This prevents overloading or choking the feeder, and also enables it to do better blending by having always at hand a replenishing supply of cotton to be delivered automatically when and as it is needed.

We invariably install in each opening line a mixing feeder, and without this machine we find that it is difficult, if not impossible, to get a really good blend. Each blending feeder receiving cotton directly from the bales will contain cotton from hardly more than five or six bales, and it is not going to blend this cotton uniformly. Each time a new bale slab is fed into the blending feeder, this hard mass of cotton will press the loose stock in the feeder against the lifting apron and cause it to feed out rather rapidly, after which, until this hard slab has been fairly well torn up, almost no lint from it will be dropped on the feed table. We have found, therefore, that the mixing feeder is quite essential for accumulating a considerable volume of cotton so that there can be some lint from each bale on the floor collected in this feeder and tumbled so as to mix it fairly well before delivering the stock to the open machinery.

Our conclusions have been drawn from a lengthy experience with the blending of colored cotton. It is very easy to theorize that a certain arbitrary blending layout should mix the cotton, but a blend of colored stocks will prove very clearly just how good the blend is, and we have found that the inclusion of the mixing feeder greatly improves the uniformity of blending.

There is a considerable difference of opinion as to what machine should be first in the opening line, but after trying practically every possible combination, we have come to the conclusion that the first machine following the mixing feeder should be the feed-roll-type opener. The conventional Buckley opener, which has been in use for about 100 years, is a typical example of this sort of machine. Some years ago we developed a cylinder beater with wider arms than those in the ordinary Buckley beater, so that these arms overlapped each other and eliminated the stringing effect so commonly found in the cotton after going through a Buckley opener. Furthermore, the arms in these cylinder beaters are perfectly straight and

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strike the cotton squarely; whereas the arms in the old-style beater are nearly all bent at an angle and strike the cotton with a sharp corner of a narrow arm, which impairs the efficiency of the beater in opening the cotton and removing the motes.

Our reason for putting the feed-roll-type opener first is that this machine, equipped with our cylinder beater, has no tendency whatever to rope or string the cotton.

All of these feed-roll-type openers are provided with grid bars for taking out loosened trash. We have found that our cylinder-type beater, which delivers about three times the blows per inch of an ordinary Buckley beater, will take out motes much more effectively than the Buckley cylinder. The Buckley cylinder cleans by dusting the cotton over the grid bars more than by driving the motes through the bars as is done in the cotton picker. Our cylinder opener generally consists of two or three beater sections. The first and second sections are equipped with double condenser screens that take out a good deal of dust.

Following the feed-roll-type opener, we would install a new machine for cleaning cotton entirely by air. This machine is known as a Super-Jet cleaner, and it contains no moving parts whatever, yet it will take more motes and neps out of cotton than any other single machine now available to the trade. This Super-Jet cleaner operates on the principle of centrifugal separation. The principle of operation of this cleaner is shown in the accompanying drawing. Cotton leaving the fingers of the cylinder beater in a finely divided condition is picked up by an air jet from the pressure fan in the base of the Super-Jet cleaner, and this lint is blown at a velocity of 6,000 to 7,000 ft. per min. against the reverse turn in the flue, where an adjustable cleaning slot is provided. While the pressure fan tends to blow everything out of this slot, the suction fan attached to the condenser of the Super-Jet cleaner develops a counter pressure at the cleaning slot sufficient to prevent the lint from blowing out of this slot, while anything heavier than the lint can pass out of it.

The cotton leaving this Super-Jet cleaner is remarkably loose and fluffy, and it is delivered to a condenser designed to take out a great deal of dust. This condenser handles about twice as much air as the ordinary cotton mill condenser, and at a much higher pressure, so that quantities of dust are exhausted from it.

The efficiency of this cleaner is proportional to the thoroughness with which the cotton has been opened and presented to the air jet with the foreign matter separate from the lint. If perfect separation of lint and foreign matter could be possible, the Super-Jet cleaner would take out all of the foreign matter heavier than the lint. Since such perfect opening and separation of lint and foreign matter are impossible, we try to present the lint to the Super-Jet cleaner in as well opened a condition as is practicable, and with this machine we extract a very large quantity of motes and neppy masses that would otherwise greatly increase the nep count in the card web.

The Super-Jet cleaner, while the most efficient mote remover we know about, is not highly effective in the removal of leaf trash since this leaf trash is so little heavier than the lint itself that it is difficult to separate it centrifugally. Heavy leaf trash, resulting from leaf veins and stems that are ground up in the gins, is taken out quite efficiently by this cleaner, and it has an extraordinary capacity for removing grass. All machine-picked cotton has a considerable amount of grass in it, and this is one of the most troublesome foreign materials that can occur in cotton.

Following the Super-Jet cleaner we would generally install a Superior cleaner, which does an excellent job of leaf-trash removal, but any other dusting cleaner of that general type would be installed at this point if used at all. We feel that all of these dusting-type cleaners can do better work on well opened cotton than on poorly opened stock, and we regard them as cleaners rather than openers, and feel that the feed-roll-type opener is basically the correct type of machine to use as the first thing in an opening line.

For feeding the pickers, we would normally install a Gyrator cleaning, blending, and distributing machine. This machine propels the cotton over grid bars by the gyratory motion of three rows of connecting rods fitted with steel spikes. It will sift out a large amount of leaf trash, light neppy motes, and other loose foreign matter. Its action on the cotton is very gentle, and it is perfectly harmless if properly fed with well-opened cotton and with its controls properly set. If fed with stringy cotton, it will make this stringiness worse, and if permitted to load up on account of improper control setting, it will make the cotton very stringy.

The Gyrator is also a very effective and satisfactory distributor, since it contains its own reserve of cotton to keep the picker hoppers amply supplied during the breaks in the flow of cotton from the opening machinery to the pickers as the automatic con-

trol operates.

Our system of single-process picking was invented to overcome the inherent undesirability of presenting a breaker lap to the cards. The only real problem ever involved in the making of a true single-process picker was controlling the flow of lap from the breaker section to the finisher section as the evener varied its demands for this lap.

The Aldrich Synchronizer was the answer to this problem, and it enabled us to build a true single-process picker, in which the finisher section made a lap out of a smooth, well-formed lap, with very little variation, presented to it from the breaker. The basic principle was exactly the same as that employed in the old-fashioned two-process picking, in that a finished lap was made out of a lap instead of directly from loose cotton.

This method has consistently produced laps with a greater internal uniformity than can be produced by other picking systems that do not make a lap out of a lap.

Since the internal uniformity of a lap cannot be determined by measuring this lap from yard to yard, we have always made lap-uniformity tests by checking the variations in the card sliver. The recent development of an electronic lap-testing system, which records variations in the lap continuously, has exactly verified our observations made with card-sliver tests.

A lap full of thick and thin spots can be very uniform yard by yard if these irregularities are evenly distributed throughout the lap. It is the smoothly felted lap, almost completely devoid of lumps and thin places, that makes the good card sliver. A yard of card sliver comes out of approximately $\frac{3}{8}$ in. of lap, and the card is therefore concerned with the minute variations in the lap from one fraction of an inch to the next fraction, and to assume that two laps with the same yard-by-yard variation are necessarily of equal quality is a delusion. We have repeatedly found that two laps with identical yard-by-yard variation will show a difference ranging from 50 to 100% in inch-by-inch variation.

TRD-Avisco Beams From Cakes at 450 yd. per min.

Section beams are being made in 4½ hr. in experimental work at Textile Research Dept., American Viscose Corp., Marcus Hook, Pa. The beamer used is made by Sipp-Eastwood.

Each beam carries 766 ends of 100-den. rayon 53,000 yd long. Beams have been wound with as low as six breaks each.

In these experiments, as a result of improvements in the formation of cakes, coning is bypassed, and the beamer is fed directly from cakes. Time-and-motion studies have also enabled Avisco to reduce to 30 min. the time required for three experienced girls to tie the 766 knots necessary each time a new beam is started.

Electronic controls keep the yarns moving at constant speed and provide for an automatic stop, without skidding, whenever there is a break. As a result of these and other refinements, the speed at which the beamer is being run is approaching 450 yd. per min. operating from cakes, in contrast to the usual 300. Among these other refinements are a traverse, quick-doffing arangement, pre-setting counter, and an instant speed change.

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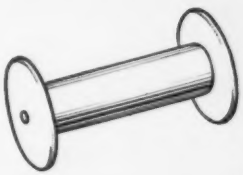

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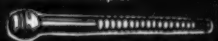

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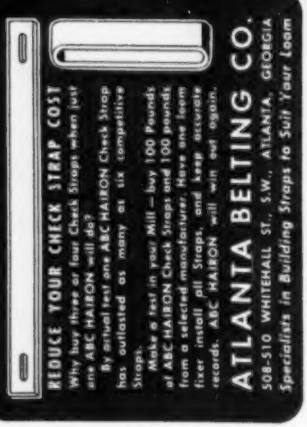

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European Textile Executives Analyze American Methods

EUROPEAN PRODUCTIVITY INCREASE was the topic of discussion at one all-morning session of the First International Textile Management Conference held at the Hotel St. Moritz in New York late in November. Werner Textile Consultants of New York were hosts at the meeting of the 41 textile men from 16 Western European countries. The Europeans were urged to take the best from American textile experience, both to help themselves, their workers, and their countries—as well as the USA.

The group was photographed during the mid-morning break in the discussion. Seated back to the wall on the left, from front to rear, are: Joseph BROCHIER, J. Brochier & Fils S.A.R.L., Lyon, France; Dr. Emilio SANCASSANI, Tessiture Seriche Bernasconi, Cernobio (Como), Italy; G. GIRAUDI, Werner Textile Consultants, N. Y.-Rome-Paris; André WALLAERT, Wallaert Frères, Lille, France; Robert P. TROCME, Cotonnière de Saint-Quentin, Paris, France; Philippe ROY, Ets. Roy Frères, Rouen and Paris, France; Jean de PRECIGOUT, Textiles Artificiels du Centre, Paris, France; George POWELL, E.C.A., Washington, D. C.; J. L. RAYMAKERS, J. A. Raymakers & Co., Helmond, Holland; J. H. GEERKENS, Van Heek & Co. N. V., Enschede, Holland; Thomas F. DOYLE, O'Brien Bros. (Spinners) Ltd., County Cork, Ireland; and a French interpreter.

Seated at the head table facing the camera are: Martin RUBENSTEIN, Werner Textile Consultants, New York; Nathaniel MITCHELL, Barnes Textile Associates, Boston, Mass.; Jack C. WERNER, Werner Textile Consultants; New York; Curtis ANDERSON, E.C.A., Washington, D. C.; Herbert L. WERNER, Werner Textile Consultants, New York; Dr. F. F. BRADSHAW, Richardson, Bellows, Henry & Co., New York; and Kendrick J. HURLEY, Piedmont Southern Co., New York.

At the right, seated back to the windows, from the rear to extreme right front, are: Dr. Franz MAYER-GUNTHOF, Voeslaver Kammgarnspinnerei, Vienna, Austria; Caspar JENNY, Sr., Fritz & Caspar Jenny, Ziegelbrücke, Switzerland; Stephen I. RUDO, Werner Textile Consultants, New York; Gabriel HOFGAARD, Haldens Bomuldespinderi & Vaeveri, Halden, Norway; Ragnar DOGGER, A/S Dale Fabrikker, Bergen, Norway; Erik GRAVESEN, Valby Strompefabrik Ltd., Copenhagen, Denmark; R. M. ASHNER, Werner Textile Consultants, New York; and Ben KAUFMANN, Wool & Worsted Consultants, Tucson, Arizona.

Standing back to the windows at the right are: Robert BORDEN, P.O.M. Co., New York; Tommy SPECKERT, Stoffel & Co., St. Gallen, Switzerland; and Max STOFFEL, Stoffel & Co., St. Gallen, Switzerland.

The eight men sitting at the same table as those listed in the fourth paragraph are, front to back: Bernard H. THIERRY-MIEG, Ets. Schaeffer, Mulhouse, France; Alfred PAGALL, United Process, Inc., Eastondale, Mass.; Fred S. LEVY, Trans World Trading Co., New York; Victor SAXL, Stellite American Corp., New York; Peter E. GLASER, P.O.M. Co., New York; Bernard VAN DELDEN, M. Van Delden & Co., Gronau, Germany; Karl T. LENDT, Lendt & Co., New York; and Eduard KINDERMANN, Guntramsdorfer Drückfabrik Aktiengesellschaft, Vienna, Austria.

The two men facing the camera from the right-hand side of the center table are, left to right: Francisco PINTO DE BALSEMAO, Patricio & Balsemao, Lisbon, Portugal; and Guy RACLET, Etablissements Charles Raclet, Paris, France.

At the left-hand side of the center table, from front to back, are: Dr. Kurt BECKER, Clemen. Ang. Becker, Muenchen-Gladbach, Germany; Walter A. ROSS, Werner Textile Consultants, New York; J. DE WITTE, Ets. Textiles de Witte, Belgium; A. R. BAINES, C. B. E. Baines' Sons Ltd., Morley, England; Sir Cuthbert B. CLEGG, Clegg & Orr Ltd., Littleborough, England; R. D. FORBES-WATSON, British Employers Confederation, England; and Christian VON SYDOW, Holmens Bruks och Fabriks, Norrkoping, Sweden.

Facing left at the left-hand table, from front to back, are: Harry FREDERIKSEN, Federation of Iceland Cooperative Society, Revkjavik, Iceland; Davide VITALE, Manif. Tessuti Maglieri, Turin, Italy; Bernard D'HALLUIN, D'Halluin Lepers Frères, Roubaix, France; G. R. LAEDERICH, Paris, France; and William B. SEARS, Werner Textile Consultants, New York.

Textile Calendar

AATCC, New York Sect., Hotel New Yorker, New York, Jan. 11, 1952.
Plant Maintenance Show, Convention Hall, Philadelphia, Pa., Jan. 14 and 17, 1952.
AATCC, Phila. Sect., Kugler's Restaurant, Philadelphia, Pa., Jan. 18, 1952.
Penna. Textile Executives Assn., annual banquet, Hotel Broadwood, Philadelphia, Pa., Jan. 26, 1952.
National Cotton Council, annual meeting, Roosevelt Hotel, New Orleans, La., Jan. 28 and 29, 1952.
Hosiery Industry Conference, Waldorf-Astoria Hotel, New York, Jan. 31 and Feb. 1, 1952.
AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Feb. 1, 1952.
PTI Alumni Assn., midwinter banquet, Warwick Hotel, Philadelphia, Pa., Feb. 8, 1952.
Cotton Research Clinic, National Cotton Council, Pinehurst, N. C., Feb. 13 to 15, 1952.
AATCC, New York Sect., Hotel McAlpin, New York, Feb. 29, 1952.
AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., March 21, 1952.
Natl. Assn. of Hosiery Mfrs., annual meeting, New York, April 1952.
Natl. Packaging Exposition, Atlantic City Auditorium, Atlantic City, N. J., April 1 to 4, 1952.
Fiber Society, spring meeting, Clemson House, Clemson, S. C., April 16 and 17, 1952.
Cotton Mfrs. Assn. of Georgia, convention, Boca Raton Hotel and Club, Boca Raton, Fla., April 16 to 18, 1952.
AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., April 18, 1952.
Knitting & Allied Crafts Exposition, sponsored by Natl. Knitted Outerwear Assn. and Underwear Institute, Grand Central Palace, New York, April 21 to 25, 1952.
Natl. Knitted Outerwear Assn., annual convention, Waldorf-Astoria Hotel, New York, April 22 and 23, 1952.
Underwear Institute, annual meeting, New York, April 24, 1952.
CATCC, annual meeting and textile tests-methods forum and exhibit, Mount Royal Hotel, Montreal, Que., April 25 and 26, 1952.
AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., May 2, 1952.
British Industries Fair, Earl's Court and Olympia, London; and Castle Bromwich, Birmingham, England; May 5 to 16, 1952.
4th International Lighting Exposition and Conference, Cleveland Auditorium, Cleveland, Ohio, May 6 to 9, 1952.
ACMI, annual convention, Haddon Hall, Atlantic City, N. J., May 15 to 17, 1952.
Carolina Yarn Assn., annual outing, Carolina Hotel, Pinehurst, N. C., May 15 to 17, 1952.
AATCC, New York Sect., Swiss Chalet, Rochelle, Park, N. J., May 16, 1952.
American Society for Quality Control, annual convention, Onondaga County War Memorial, Syracuse, N. Y., May 22 to 24, 1952.
Textile Institute, annual conference, Assembly H'' Edinburgh, Scotland, June 2 to 7, 1952.
STA, annual convention, Ocean Forest Hotel, Myrtle Beach, S. C., June 12 to 14, 1952.
AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., June 20, 1952.
ASTM, annual meeting, Hotel Statler, New York, June 23 to 27, 1952.
Third Canadian Textile Seminar, Queen's University, Kingston, Ont., September 1952.
17th Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 6 to 11, 1952.
AATCC, national convention and dyeing and finishing exposition, Hotel Statler, Boston, Mass., Nov. 6 to 8, 1952.

1953

Natl. Assn. of Hosiery Mfrs., annual convention and conference, Claridge Hotel, Atlantic City, N. J., April 27 and 28, 1953.
Knitting Arts Exhibition, Atlantic City Auditorium, Atlantic City, N. J., April 27 to May 1, 1953.
AATCC, national convention, Stevens Hotel, Chicago, Ill., Sept. 17 to 19, 1953.

News OF THE MONTH

Orlon-B Acrylic Fiber. A B-type Orlon acrylic fiber ("B" stands for "bulk"), evidently in a search for better coverage in Orlon fabrics, is being evaluated by the Du Pont Co. The B-type filament varies from the regular Orlon filament both in the size of the cross section and in specific gravity, it is said. The dog-bone-type cross section is believed to be a little larger and more pronounced. At the same time the specific gravity of the B-type filament is believed to be slightly lower than that of the regular-type Orlon filament (1.17 sp. gr.). When the B-type filament is used in staple form, it becomes "bulkier" (that is, it doesn't compress as closely as regular Orlon staple) and covers a fabric more fully for the same weight of yarn. Several mills are reported trying out Orlon B in plant experimental test runs.

Single-Immersion Mildewproofing. A method of mildewproofing osnaburg and burlap bags after they have been completely manufactured has been worked out commercially by Lawrence Jacobson Dye Works, Inc., Philadelphia, Pa. Production costs are reported reduced 10% to 15%. Advantages of the new method are claimed to be elimination of irregular shrinkage, of processing fire hazard, and of frequent machinery readjustments; as well as increased thread sewability and speed at the sewing process. The solution used on the completed bags is said to be a copper-naphthanate derivative.

Hosiery-Manufacturers Conference. A special "Hosiery Industry Conference" has been called for January 31 and February 1 by the National Assn. of Hosiery Mfrs., the Full Fashioned Hosiery Mfrs. of America, the Independent Assn. of Stocking Mfrs., the Southern Hosiery Mfrs. Assn., and the Woolen Hosiery Institute. Meetings

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STAND-UP MODEL "H-W" — 3,500-lb. cap. on 15" load center. Mast Ht. 83" (Free Lift 56"; Lift Ht. 108". Mast Ht. 136"). Outside turning radius 63¾", inside turning radius Zero. Also available with std. 63" Mast.
MODEL "H" 3,000-lb. cap. available with 63" and 83" Masts.

Created to meet a demand!
This is the new model that MOBILIFT engineers developed to meet specific needs in all types of industry to help speed production and cut handling costs.
Not a single MOBILIFT maneuverability feature found in smaller models has been sacrificed in this versatile model.

EXCLUSIVE FEATURES:
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NEWS *of the Month*

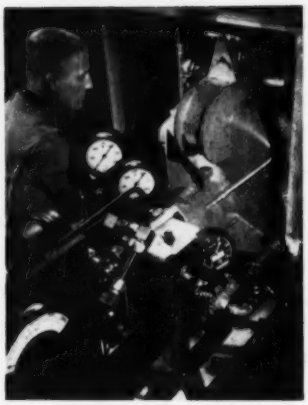
(Continued)

will be held at the Waldorf-Astoria Hotel in New York to study reduced demand, lowered prices, and other manufacturing problems. Practical means for correcting the situation will be considered, and a program dealing with fundamental conditions will be projected into the future. As a preliminary to the conference, zonal meetings were held last month at Philadelphia and Reading, Pa.; Chicago, Ill.; High Point and Hickory, N. C.; and Chattanooga, Tenn.

Cyanamid and Carbide Plans. A big expansion in the manufacture of raw materials that go into acrylonitrile, the base for acrylic fibers, is planned by the American Cyanamid Co., New York. A new $47,000,000 plant, aided by a 50% rapid-tax-amortization certificate of necessity from Washington, will be located in the New Orleans, La., area, it is reported. Meanwhile, Union Carbide & Carbon Co., New York, has an application for raw-materials guarantees pending in Washington for the building of a new $33,000,000 dynel plant in the middle South. The new plant is said by Congressman Thurmond Chatham to be scheduled for location near Spray, N. C.

Rayon and Acetate Rules. The following trade-practice rules on the use and identification of rayon and acetate were promulgated Dec. 11, 1951, by the Federal Trade Commission and become operative 60 days from the date of promulgation. The term "rayon" is to be used for man-made textile fibers and filaments composed of regenerated cellulose; and yarn, thread, or textile fabric made of such fibers and filaments. The term "acetate" is to be used for man-made textile fibers and filaments composed of cellulose acetate; and yarn, thread, and textile fabric made of such fibers and filaments. Practices to be considered unfair are general misrepresentation, improper identification, incomplete description, juggled weight-values listings, improper fiber emphasis by size of printing on label, incomplete provision of fiber description along with trade mark, concealed adulterants, and incomplete fabric-handling information on consumer labels.

Wool-Treatment Progress. Considerable progress in eliminating the two important deficiencies in wool fibers—felting shrinkage and moth damage—has been made since World War II, Giles Hopkins, technical director of The Wool Bureau, Inc., New York, said in a recent paper delivered before the Quebec Section of the CATCC. Progress with chemical treatments have also made possible (1) increased fiber strength, (2) better resistance to alkalis, and (3) less damage from oxidizing agents and reducing agents.



100,000-FRAMES-PER-SEC. MOTION-PICTURE CAMERA, ten times as fast as most commercial high-speed cameras, has been developed by Batelle Institute, Columbus, Ohio, as a research tool. It has only one moving part and takes photographs whose detail and clarity are comparable to those obtained with lower-speed cameras. Textile applications are seen as exploration of irregular synthetic-yarn-spinning operation, of motor troubles, and of high-speed operations in general.

Final Cotton-Crop Estimate. The 1951 U. S. cotton crop will total 15,290,000 bales of 500-lb. gross-weight average, the Department of Agriculture made known last month. This estimate is 481,000,000 bales below a preliminary estimate made in November. As a result of the tightened situation, export allocations are forecast so that the U. S. industry can get through to next August with a minimum-cushion carryover of 2,200,000 bales. An original cotton goal of 16,000,000 bales was announced for 1951 last July. Raw-cotton costs to manufacturers have risen intermittently ever since then.

Bigelow-Sanford Plans. This year the total carpet yardage to be woven by Bigelow-Sanford Carpet Co., New York will be over 75% in rayon and rayon blends, the company made known recently. Another 5% will be in cotton and cotton blends, so that the over-all total of all-wool carpeting will thus be less than 20%. Advan-

tages of rayon and blended carpeting over the all-wool types were given as (1) less fluff over a period of time because of the lack of short fibers to pull out, (2) mothproofness, (3) staticproofness, (4) wider dyeing ranges because of original fiber whiteness, (5) less expensive and less fluctuating price as a raw material, and (6) less costly processing.

Plan for New England. A way to improve the competitive position of New England as a manufacturing area has been outlined by Nathaniel M. Mitchell, president of Barnes Textile Associates, Inc., Boston, Mass. A tri-cornered industrial program embracing management, labor, and the public must be initiated, he said. A council of engineers of rotating membership should be set up to design the over-all pattern to be followed by all New England industries, labor, and public. Facts would be established as to taxes, management policies, and labor policies; and teamwork would insure accuracy of the fact-finding methods used and provide the information necessary to design a logical, effective program.

"Small-Business" Definition. The Department of Commerce has issued revised maximum figures on what constitutes a "small business" in the textile-manufacturing field. The previous maximum of 500 employees remains the same for rayon and related broad-woven fabric manufacturers. Other employee-maximum figures include: cotton broad-woven mills, 750; woolen and worsted fabric mills, 400; finishing plants, except wool, 250; cotton-system yarn mills, 250; woolen-yarn mills, except carpet, 250; full-fashioned hosiery mills, 200; seamless hosiery mills, 200; throwing mills, 200; knitting mills, 100; and silk-system yarn mills, 100.

Mobilization News Items

CPR-22 Option Extended. OPS has extended the option time granted to textile manufacturers for choosing or not choosing CPR-22 for pricing purposes until further action is forthcoming from the Director of Price Stabilization. By the extension of Supplementary Regulation 12 to CPR-22 for an indefinite period, manufacturers do not have to go through the double burden of establishing ceiling prices under CPR-22 and then under a later "tailored" regulation. Gray- or finished-fabric sellers who have already "gone under" CPR-22 and have made it effective for themselves still have the privilege of reverting to their General Price Regulation (general "freeze") if they so wish, even though CPR-22 resulted in rollbacks from the GCPR.

Textile-Finishing Survey. To obtain better information on the industry's requirements for chemicals, particularly sulfuric acid and other materials, the NPA is considering making a series of surveys. Draft copies of four forms that may be used were distributed to and discussed with the Textile Finishing (except wool) Industry Advisory Committee. The committee recommended that finishers not be required to report on the end-use of materials that they process, because materials designed for one use may be adapted to a different purpose after finishing. As a result, finishers' estimates would not result in accurate actual end-use figures. It was also requested that firms be allowed to report their production on a current rather than a historical basis if the surveys are finally undertaken.

Carded-Yarn Spindles Freed. NPA has removed restrictions on the use of carded-cotton-yarn spindles by the elimination of Section 7 in Order M-23. The requirement had been that spindles producing yarn of one class (coarser than 6s, 6s to 22s, or finer than 22s) could not be used to spin yarns in another weight class. Excessive inventories of certain types resulted as demands changed. Under M-23 yarn manufacturers need not accept rated orders in excess of the following percentages of their production: coarse yarns, 20%; 6s to 22s, 30%; and finer yarns, 20%.

Iran Affects Detergents. The loss of Iranian oil imports could mean a cutback in the production of synthetic detergents, NPA recently told the Synthetic Detergents Industry Advisory Committee. Benzene, vital to synthetic-detergent production, in an emergency would have to be diverted to the production of aviation gasoline. Sodium phosphates, also a factor in synthetic-detergent production, are seen as adequate for the new year. Expansion of facilities contemplated will increase capacity about 60% next year.

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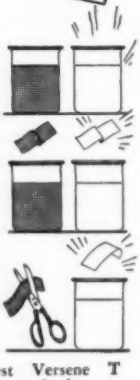
Versene T*
BEAKER #1
(one liter) 500 cc of 5% caustic soda solution plus 5 cc of 0.1 Molar Ferric Chloride (27 gms. $FeCl_3 \cdot 6H_2O$ per 1000 cc water).
BEAKER #2
(one liter) Same contents as Beaker #1 but with 5 cc of Versene T added.

PROCEDURE BY STEPS

First, add the caustic to each beaker. Then, to Beaker #2, add 5cc of Versene T. Heat both beakers to boiling point and add the 5cc of the Ferric Chloride to each beaker. Note the difference between the solutions. Beaker #1 (containing no Versene T) is muddy with rust. Beaker #2 is water-white. Next, put a small strip of clean white cotton cloth in each beaker and boil a few minutes. Remove strips and rinse with water. Note the difference. Versene T has kept its strip white in spite of the iron that was added.



Last, take the other rust-stained strip, cut in half and place one-half in Beaker #2 containing the clear solution with the Versene T in it. Boil for a few minutes. Remove, rinse and compare. The Versene T has now restored the rust-stained cloth to its original whiteness.

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Midwest Agent: Kraft Chemical Co., Inc., 917 W. 18th Street, Chicago
Wasatch Chemical Co., Salt Lake City, Utah
Barada & Page, Inc., Dallas and Houston, Texas
Associated Chemical Co. of Canada, 14 Darrell Ave., Toronto, Ontario
Chas. S. Tanner Co., 1815 Liberty Life Bldg., Charlotte, North Carolina

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NEWS ABOUT Suppliers

Equipment Suppliers

Acme Steel Products Div. of Acme Steel Co., Chicago, Ill., has been formed. It is handling as of this month sales and distribution for products formerly sold through the consumer-products division. John G. Bucuss is president of the new organization.

Armstrong Cork Co., Lancaster, Pa., has established a separate felt- and fibrous-products department of the industrial division. D. S. Paiste is manager of the new department, which will work in the field of application of dry or saturated felt papers for vibration dampening, sound deadening, and packaging purposes.

Cutler-Hammer, Inc., Milwaukee, Wis., has made Philip Ryan executive vice president. He has been with the company since 1920. R. A. Millermaster has been appointed manager of the development department. C. W. Kuhn is the new director of development engineering for the company.

Draper Corp., Hopedale, Mass., has acquired the property of Walker Mfg. Co., Philadelphia, Pa., and intends to continue the operation as the Walker Div. Modernization of the Walker-plant reed, heddle, and harness facilities is in progress.

Foster Machine Co., Westfield, Mass., has appointed Guy R. Williams service manager at the Charlotte, N. C., office. He will service mills in Virginia and the Carolinas.

E. H. Jacobs, Northern and Southern Divs., Bullard Clark Co., Danielson, Conn., and Charlotte, N. C., has appointed Wallace MacMaster, Jr., its district-sales and service engineer for weaving mills in the Midwest. He will work out of East Cleveland, Ohio.

Package Machinery Co., Springfield, Mass., has given a leave of absence to its president, Roger Lowell Putnam, to be director of the Economic Stabilization Agency in Washington, D. C., succeeding Eric Johnston.

JAMES H. W. CONKLIN has been appointed general sales manager of the Philadelphia Div., Yale & Towne Mfg. Co., Philadelphia, Pa., succeeding James P. Kinney, who has taken over a company distributorship in California. Mr. Conklin was formerly with Pangborn Corp. and Clark Equipment Co. and is a past president of the Materials Handling Institute.

Reliance Electric & Engineering Co., Cleveland, Ohio, has promoted John L. Fuller to manager of research and technical services. Mr. Fuller joined the company as an engineering trainee in 1936.

Scott & Williams, Inc., Laconia, N. H., has elected Ralph E. Thompson chairman of the board. Richard E. Whitehead, former president of New Haven Clock Co., has succeeded Mr. Thompson as president. William A. Camp has resigned as vice president.

Sonoco de Mexico, Mexico City, Mexico, subsidiary of Sonoco Products Co., Hartsville, S. C., recently elected the following officers: Henry S. Dabdoub, president; Joel Dean Ferry, vice president, treasurer, and general manager; and Ernesto Santos Galindo, secretary. A paper machine is expected to be in production this month.

Sterling Electric Motors, Inc., Los Angeles, Calif., has appointed Alabama Bearings

News About **SUPPLIERS** (Continued)

D. G. ROGERS, executive vice president of National Aniline Div., Allied Chemical & Dye Corp., New York, since October, 1950, was recently named president of the division. He succeeds E. M. Maxwell, who has been ill for some time.

E. W. ERCKLENTZ has been named vice president in charge of sales for Kearny Mfg. Co., Inc., Kearny, N. J. William R. Fox, Providence, R. I., is now representative in New England. Howard Gerry has joined the chemical-division sales staff.

Co., Inc., Montgomery, Ala., a distributor in the South for the company's electric-power drives.

Tatem Mfg. Co., Eastford, Conn., has appointed Greenville Belting Co., Greenville, S. C., its sales representative in the Carolinas, Georgia, Alabama, and Tennessee.

Textile Machine Works, Reading, Pa., has named Benjamin A. Edelman assistant superintendent of the knitting-machine division. Wilbur Curley is now assistant foreman of the milling department on the night shift. Other promotions include: Marvin I. Kutch, assistant foreman of the braiding-machine section; Vincent Scalese, assistant foreman in the tool-designing section; and Robert Geissler, assistant foreman in the needle department on the night shift.

Universal Winding Co., Providence, R. I., has added Ray C. Pillsbury to its sales staff, to handle sales-promotional work and to act as assistant to W. S. Warren, vice president in charge of domestic sales. He had been vice president and general manager of Wamsutta Mills. Frank P. Barrie has been assigned to the Charlotte, N. C., office Atwood-division sales staff and will specialize on twisting equipment. Fred Sails of Charlotte is retiring next June.

Watson & Desmond, Charlotte, N. C., has added Edgar E. Ball to its staff. He heads the chemical department, specializing in Chemicolloid-Laboratories and Mona-Industries products.

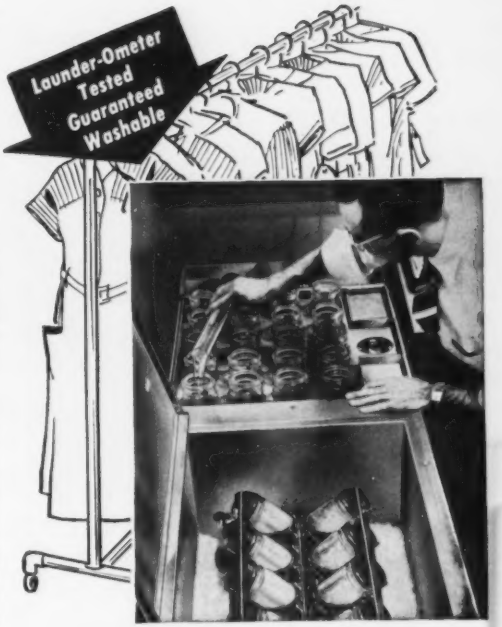
Correction—In the November issue the pictures of Oliver D. Landis and Charles G. Stover of Benjamin Booth Co. were inadvertently transposed. TEXTILE WORLD regrets the error.

Chemical and Yarn Suppliers

American Cyanamid Co., Textile Resin Dept., New York, has made the following appointments: Dr. T. F. Cooke, manager of the application laboratories; L. A. Fluck, assistant to the manager; and Clem W. Kohlman, advertising and promotion manager, succeeding Bernice S. Bronner, resigned. James Tucker, formerly with H. W. Butterworth & Sons Co., Bethayres, Pa., has joined the pilot plant of the new-product development department at Stamford, Conn., to help work out mechanical developments in the X51-fiber pilot plant there.

Boger & Crawford Co., Philadelphia, Pa., has appointed Ian N. Haldane Canadian representative of its line of mercerized and spun-nylon yarns. His headquarters are in London, Ont.

Celanese Corp. of America, Inc., New York, is building a new central laboratory at



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Before you can guarantee a product, you have to know how it will react to conditions it is expected to meet during its service life. Moreover, when you want this information, you want it fast!

When it comes to washable fabrics (or any other washable product) the Launder-Ometer is the machine that can give you the facts—in a fraction of the time normally required. Accepted as the standard laboratory washing machine of the American Association of Textile Chemists and Colorists, the Launder-Ometer can duplicate the effects of as many as 5 commercial launderings in one forty-five minute test. The data thus provided includes loss of tensile strength, color fastness, resistance to shrinkage, bleeding, washing and mechanical action, and other equally important information.

The Launder-Ometer is also in widespread use for the laboratory dyeing of leathers and textiles and for the testing of dry-cleaning oils and solvents and the efficiency of detergents and soaps. As many as 20 samples can be conducted simultaneously and conditions used for any given test can be reproduced at any time.

Operation of the Launder-Ometer is simple. It is a carefully built machine, soundly constructed, and economical in maintenance and operating costs. Available in 3 sizes with capacities of 20 one pint jars, 20 one quart jars, or 6 two quart jars plus any combination of 10 one pint jars or 10 one quart jars. All models are electrically driven, ¼ HP to ½ HP.

New Inconel jars designed in accordance with A.A.T.C.C. specifications for the new Accelerated Wash Fastness Test No. 3A are now available from Atlas.

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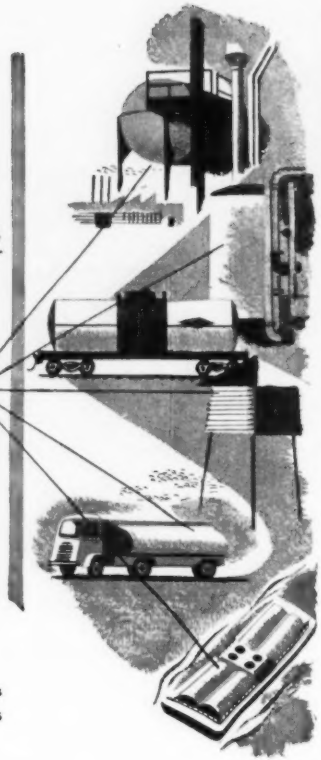

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News About **SUPPLIERS** (Continued)

ROBERT E. SMITH, since 1948 assistant manager of staple sales at American Viscose Corp., New York, has been appointed Acrilan sales manager of Chemstrand Corp., Decatur, Ala. He is located in New York and will work under William G. Luttge, Chemstrand general sales manager.

PHILIP SWARTZ has been appointed Pennsylvania sales-and-service representative for Dexter Chemical Corp., New York. Especially interested in the problem of electrostatics in textile manufacturing, Mr. Swartz was in past years with the Philadelphia QM Laboratories and the USAF textiles section.

Clarkwood, Tex. A contract for the installation of new equipment and machinery that will raise the daily tonnage of the Columbia Cellulose Co. Ltd. plant near Prince Rupert, B. C., by 50% has been let to Dominion Construction Co. Ltd.

Chemstrand Corp., Decatur, Ala., has a score of Du Pont engineers in Pensacola, Fla., pushing construction of the new nylon-producing plant scheduled to be in commercial production next year.

Dixie Mercerizing Co., Chattanooga, Tenn., has added Robert L. Voigt, formerly of the Du Pont nylon division, to its staff. He will develop and service sales of synthetic yarns.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has reorganized both its rayon and organic-chemicals departments. The former is now known as the textile-fibers department. It has expanded into two large divisions: manufacturing and sales of man-made fibers. Frank B. Ridgway heads all manufacturing activity as assistant general manager—manufacturing. William R. Creadick heads all sales activity as assistant general manager—sales. In the organic-chemicals department, sales activity has been brought under one general director, Douglas C. Newman. Dr. Miles A. Dahlen has become director of sales, dyestuffs division; Gordon M. Markle, director of sales, fine-chemicals division; and H. J. Swezey, director of sales, export division.

Emkay Chemical Co., Elizabeth, N. J., has appointed

RAYMOND E. OLSON (left) has been elected president of Taylor Instrument Cos., Rochester, N. Y., succeeding Lewis B. Swift, now chairman of the board. Appointed to replace Mr. Olson as general sales manager is FRANK S. WARD (center), who since 1945 had been industrial sales manager. ALBERT J. FLEIG (right), divisional sales manager for six years, is now industrial sales manager.

News About **SUPPLIERS** (Continued)

JAMES A. WEBBER (left) and FRANK T. WILLIAMS (right) have been made assistant divisional managers of the viscose-filament sales division of American Viscose Corp., New York. Mr. Webber, who has been in filament sales since 1940, will devote his time to textile yarns. Mr. Williams will deal with tire-yarn sales.

Walter E. Wenck sales representative in the Carolinas and Tennessee, working out of Gastonia, N. C.

Firestone Plastics Co., Pottstown, Pa., has named Stuart G. Keiller manager of Velon-filament sales, with headquarters in New York. Gurdon H. Smith is Southern district-sales representative for Velon sheetings. His office is at High Point, N. C.

General Dyestuffs Corp., New York, has set up its division formerly known as Antara Products under the new name of Antara Chemicals.

B. F. Goodrich Chemical Co., Cleveland, Ohio, has named Polymers Southern, Inc., Greenville, S. C., distributors for the company's new nylon-sizing agent.

Texize Chemicals, Inc., Greenville, S. C., plans the construction of a 9,000-sq.ft. plant addition for the expansion of production. The company plans to distribute in Eastern markets.

Warwick Chemical Co., Div. of Sun Chemical Corp., Long Island City, N. Y., has appointed Robert Gordon MacDougal general manager of the featured-fabric-finishes department, succeeding Albert Leitstein, deceased. Maurycy Bloch has been elected vice president of the firm.

Other Services

American Assn. of Textile Chemists & Colorists has re-elected as president C. Norris Rabold, Erwin Mills, Inc., and consulting editor of TEXTILE WORLD. Regional vice presidents elected for 1952 were: Raymond W. Jacoby, Ciba Co., Inc., Providence, R. I., office, for New England; Arthur W. Etchells, Hellwig Dyeing Corp., Philadelphia, Pa., for Central Atlantic region; Samuel L. Hayes, Ciba Co., Inc., Charlotte, N. C., office, for South; and Arthur T. Brainerd, Ciba Co., Inc., Chicago, Ill., office, for Western area.

Fashion Institute of Technology, New York, was recently raised to the rank of a college of the State University of New York.

Lowell Textile Institute, Lowell, Mass., has been granted by the Massachusetts State legislature the sum of $315,000 for capital outlay in additional machinery and laboratory facilities during 1952.

Textile Technical Federation of Canada, Montreal, Que., has appointed John M. Merriman executive secretary. Formed 13 years ago, the Federation coordinates various Canadian textile activities. It has about 1,000 members and is sponsoring the Third Canadian Textile Seminar, to be held in Kingston, Ont., in September.

Textile Hall, Greenville, S. C., is constructing a 8,000-sq.ft. annex. The exterior will be of brick, and the interior will conform to the general appearance of the main building.

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THE NEW SIPP-EASTWOOD ELECTRICALLY CONTROLLED

HIGH SPEED WARPER

—the speed of the machine is limited only by the yarn in mills where only the most efficient equipment is tolerated. *It builds beams up to 36 inches in diameter, 54¼ inches* or wider between heads, with practically no vibration because of smoothly applied power and extra heavy construction.

FEATURES THAT ARE OUTSTANDING:

1. **Stepless automatic electrical control of warp speed 1% maximum variation.**
2. **Electrical indication of speed at all times.**
3. **Finger-tip controls throughout.**
4. **Static eliminator.**
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6. **Magnetically operated hydraulic brakes for auxiliary braking of beam, measuring roll and pressure roll, and to hold the beam at a standstill.**
7. **Separate hydraulic system for handling beams in and out.**
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NEWS ABOUT *Mills*

Cotton Mills

American Thread Co., Sevier, N. C., has started to erect steel structure. Estimated cost is $7,000,000. General contractor is Daniel Construction Co., Greenville, S. C.

Avondale Mills, Sylacauga, Ala., has completed a new two-story warehouse to handle finished goods from all Avondale plants. Lockwood Greene Engineers, Inc., was architect-engineer for the project.

Bowart Textiles, Austria, will erect a plant in Three Rivers, Que., to weave cotton goods.

Canadian Cottons Ltd., Montreal, Que., is building a dyehouse and finishing plant at Cornwall, Ont. The company does not plan to shift its head office to Cornwall, as this column reported recently.

Chicopee Mfg. Co., Athens Div., Athens, Ga., plans an expansion program for the near future.

Cosmos Div., Cosmos Imperial Mills Ltd., Yarmouth, N. S., is installing new machinery throughout the mill. The stores department has been moved to a new location in the basement of the new warp room. The machine shop has been moved into a new building. New British Northrop looms are expected soon, and the weaving department has rearranged some of its heaviest looms to make space for them. The spinning department has been painted, and plans call for the entire outside of mill buildings to receive a special type of mastic coating to protect brickwork from the corrosive effects of salt-laden ocean winds. New lappers made by Saco-Lowell have been installed in the carding department, and Whitin Machine Works has modernized the roving frames.

Laurens Cotton Mill, Laurens, S. C., has installed a new overhead lap-conveyor system. One of the features of the system is a totally enclosed bridge connecting two of the existing buildings constructed to house the conveyor. A new weave-room floor of more than 37,000 sq. ft. has been constructed.

Mallison Braided Cord Co., Athens, Ga., has completed a new addition totaling 15,000 sq. ft. This will increase its capacity for cotton braided cordage by 30%.

Minette Mills, Grover, N. C., has begun construction of a plant addition of 10,000 sq. ft. that will accommodate a 20% expansion of production facilities. A total of 16 new jacquard looms will be installed.

Montreal Cottons Ltd., Valleyfield, Que., is progressing with erection of a $22,000 warehouse. Anglin-Norcross, Quebec, Ltd., Montreal, is the contractor.

Muscogee Mfg. Co., Columbus, Ga., has installed a Hermas machine in its cloth room.

Pacolet Mill No. 4, New Holland, Ga., a division of Deering, Milliken & Co., is nearing completion of a $500,000 addition. The addition is three stories high and will add 60,000 sq. ft. of floor space to be used for a new twister room and weave room. An apparatus tower providing additional air-conditioning capacity will be completed this month. The company is also expanding its Mill No. 6 at Gainesville, Ga. The addition will be one story, containing 60,000 sq. ft., and will be used as a weave room. Air conditioning will be installed. Daniel Construction Co., Greenville, S. C., is general contractor.

F. W. Poe Mfg. Co., Greenville, S. C., is nearing completion of a $100,000 warehouse.

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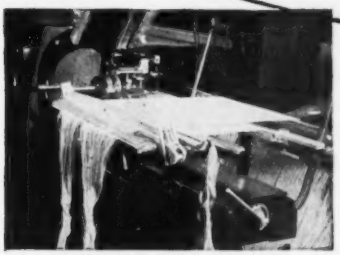
TIES IN EITHER PLAIN OR LEASED WARP WITH EQUAL SPEED AND EFFICIENCY

BARBER-COLMAN *Portable* WARP TYING MACHINE



Model "LL" machine set up for tying in a plain cotton warp.

The same machine as above, now set up for a leased cotton warp.

A Barber-Colman PORTABLE Warp Tying Machine can be a *very profitable* investment for you. This machine offers a fast and accurate means for tying-in new warp *at the loom.* It can be handled in confined and hard-to-reach places and in loom alleys as narrow as 12". Overall production capacity averages 3500 to 4500 ends per hour, higher on high sley warps. Models are available to handle cotton, wool, worsted, silk, or synthetics (including monofilaments) and plain warps or leased warps or both. Tying is accurate and uniform and so much more efficient than common hand methods that the machine will pay for itself quickly in cost savings *even when not in constant use.*

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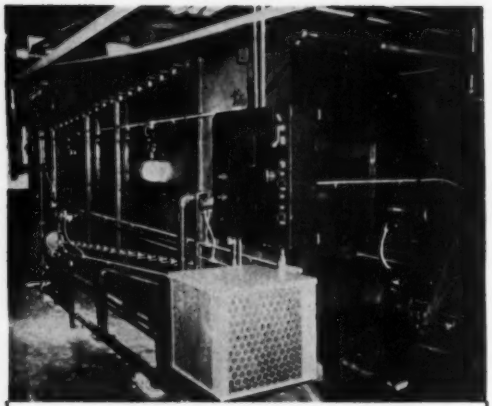

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News About **MILLS** (Continued)

The building is of masonry construction and is attached to the present mill building by an 8-ft. access ramp that provides for use of lift trucks in the warehouse. Sprinklers and a complete fire-control system have been installed.

Riegel Textile Mill, Trion, Ga., will add 15,000 new spindles and construct a new building in which additional looms will be installed as part of the company's current expansion program.

United Cotton Mills Ltd., St. Johns, Newfoundland, is reported planning three new mill units, estimated to cost over $4,500,000 with equipment.

Wamsutta Mills, New Bedford, Mass., is considering a site near Etowah, Tenn., for a $4,000,000 plant.

Woolen and Worsted Mills

American Hair & Felt Co., Milwaukee, Wis., has closed bids for coal-handling equipment to be installed in an addition to the power plant at the mill. Award for the boiler has been made to Union Iron Works, Milwaukee. Gates, Moe, Weiss & Papenthien, Milwaukee, is architect and engineer. The entire project will cost about $300,000.

Ayers Ltd., Lachute Mills, Que., has let a contract to H. C. Johnston Co. Ltd., Montreal, for general alterations to an office building at 2055 Mansfield St., Montreal. Cost of the work is estimated at $45,000. The architect is Erwin Bamberger, Montreal.

Francis Glorieux Ltd., Roubaix, France, has leased a plant in Rigaud, Que., for the production of woolen fabrics.

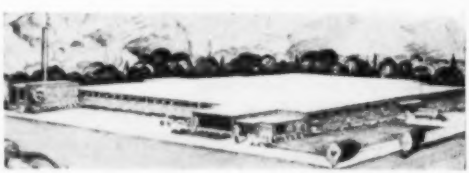
F. C. Huyck & Sons, Albany, N. Y., has taken over the Cavendish Woolen Mills of Gay Bros. in Cavendish, Vt., and will operate it as a blanket unit. Gay Bros. has recently installed new carding, spinning, and weaving equipment, including Crompton & Knowles W-3 looms. Rehabilitation of the dyeing and finishing department was not finished prior to the sale. It is understood that Huyck will add its own new dyeing and finishing equipment.

Lymansville Co., North Providence, R. I., is installing a new dyehouse unit that will bring the cost of postwar improvements to over $2,000,000, with 90% of the firm's equipment modernized or replaced. Capacity is now 2,000 pieces of worsted goods weekly.

Pasauld Ltd., England, plans construction of a new plant for the production of woolen fabrics at Dorion, Que.

Riverhart Ltd., East Oakleigh, Victoria, Australia, has issued 165,000 additional ordinary shares to provide funds for the purchase of one set of French drawing and spinning machinery with auxiliary equipment; for building a mill extension to contain that equipment; and for additional working capital. Worsted-yarn production will be doubled when the program is completed during the first half of this year.

Rock River Woolen Mills, Janesville, Wis., plans a one-story addition to be used as a



KILBURN MILL, New Bedford, Mass., has started construction of this thread finishing plant at Tryon, N. C. It will contain about 60,000 sq. ft. of floor space and is reported to cost close to $2,000,000. Lockwood Greene Engineers, Inc., Spartanburg, S. C., is the architect and engineer. Fiske-Carter Construction Co., Spartanburg, is the general contractor.

warehouse. Arthur Kuenzi, Watertown, Wis., is architect for the job.

Wyandotte Worsted Co., Rochester, N. H., has work under way on a one-story, 40x88-ft. addition to its dye house. W. M. Bailey Co., Boston, Mass., is the general contractor. Alonzo B. Reed, Inc., Boston, is the engineer.

Synthetics Mills

Aetna Industrial Corp., New York, has purchased more than 98% of the outstanding common stock of Champlain Spinners, Inc., Whitehall, N. Y. Walter Weismann, chairman of the board of Aetna, has been elected president of Champlain Spinners, Inc. Other officers are French Campbell, executive vice president; Theodore Balanger, former president of Champlain, vice president; George R. Teich, treasurer; James J. Devine, secretary; and Arthur R. Hoffman, assistant treasurer and assistant secretary. Future plans for the company include additional equipment and a new designing department.

Firestone Tire & Rubber Co. is reported to be making plans to construct a $5,000,000 textile plant at Lebanon, Tenn. The mill will produce tire cord.

Greenhalgh Mills, Pawtucket, R. I., has let an air-conditioning contract to Air Engineering Co., Charlotte, N. C., for its cotton and synthetic weaving department. James Marshall is the consulting engineer.

Grouts Ltd., St. Catherines, Ont., has completed a modern office wing at its plant. Other modernization plans, all part of the continuing plant-improvement policies of the company, are in progress.

Judson Mill, a division of Deering, Milliken & Co., Greenville, S. C., is adding two large apparatus towers and one refrigeration room for air conditioning of the new weave room. Estimated cost is $200,000. Daniel Construction Co., Greenville, S. C., is contractor. The improvement is part of a long-range modernization and expansion program in which Deering, Milliken mills are being modernized and new production units being added. In this program, more than 2,000,000 sq. ft. of production area have been added and another 4,000,000 sq. ft. completely modernized.

Meridian, Miss.—City officials have selected Morris L. McNair and Krouse & Yarbrough, architects, all of Meridian, to prepare plans for a proposed new mill to be constructed by the municipality and occupied by Textron, Inc., Providence, R. I., under lease. A bond issue of $6,500,000 recently was authorized to finance the project.

Nottingham Lace Mill, Hope Valley, R. I., will begin producing nylon laces in the near future. Three British-built lace machines and a loom for plain nets for foundation garments have been installed. Another netting loom is on its way.

Ossipee Weaving Plant of Burlington Mills Corp., Elon College, N. C., has installed a Hermas machine in its cloth room.

Schwarzenbach-Huber Co., Bethlehem, Pa., plans the early removal of equipment from its local mill to the branch plant at Front Royal, Va., where operations will be consolidated.

Stunzi Sons Silk Co., Ephrata, Pa., has installed a Hermas machine in its cloth room.

Textron Southern, Inc., Williamston, S. C., is progressing with a $1,200,000 addition to its plant. The expansion will provide 50,000 sq. ft. of floor space and will house 510 looms and additional equipment. The plant's loom capacity will be increased by more than 50% and will result in the employment of 100 or more workers.

Victor-Monaghan Co., Greer Plant, a division of J. P. Stevens & Co., at Greer, S. C., is having a community building erected by Daniel Construction Co., Greenville, S. C. This $150,000 building, providing complete recreational facilities for the mill's workers, is re-

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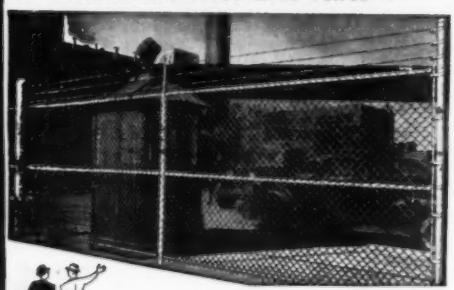

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News About **MILLS** (Continued)

placing an old and less extensive community building removed to make room for new weave-room facilities.

Zephyr Textiles Ltd., Ormstown, Que., has increased production 20% through an expansion program recently completed. About 75% of the plant's yarn output is going to weavers, and the balance is going to the knitting and other trades.

Knitting Mills

Airmaid Hosiery Mills, Dallas, Texas, has increased its capital stock to $571,000.

Alfred Knitting Co., Alfred, Ont., now has 18 semi-automatic knitting machines in operation, and plans call for the installation of 12 additional units. The firm, which received its charter a year ago, produces men's socks from wool supplied by Eastern Woolen Mills, Richelieu, Que. A. O. Monderie is president; Marcel Matte, vice president; Roger Grosleau, secretary-treasurer; Marcel Gagnon, Albert Matte, and Simond Bertrand, directors. There are 60 employees.

Belding Corticelli Ltd., Montreal, Que., expects that all machinery for the firm's modern full-fashioned hosiery-manufacturing plant in Greenfield Park, near St. Lambert, Que., will be installed and in full operation soon. The unit will cost $1,000,000. The plant is one-story, windowless, of reinforced concrete with white-brick lining and two inches of insulation on all sides and in the roof. Modern temperature and humidity controls are installed. Machinery now in operation includes twelve 30-section, 51-gauge, and two 60-gauge full-fashioned Textile Machine Works knitting machines. The company plans to house its complete hosiery division at Greenfield Park, where buildings will provide approximately 100,000 sq. ft. of floor space.

H. F. Binch Co., Inc., Glens Falls, N. Y., one of five mills affiliated with Native Laces & Textiles, Inc., is expanding its tricot operation about 50%. The company is replacing semi-obsolete machinery with modern high-speed machines. The expansion program is expected to be completed by June.

Cloverdale Knitting Mills, owned and managed by R. F. Ellis, is now in operation at 9314 111th Ave., Edmonton, Alta., producing sweaters, men's and boys' wear, and athletic wear. The firm purchases worsted yarns in counts of 2/16s and 2/22s.

Ferguson Atlantic Underwear Ltd., Moncton, New Brunswick, was closed recently and business transferred to two Quebec plants, one in Montreal and the other in Three Rivers. Sewing machinery and other equipment have been transferred to Three Rivers, where a $125,000 one-story plant is being erected by Apparel Industries Ltd., of Montreal. The company's knitting business has been transferred to the Montreal plant of Formcraft Fabrics Ltd., an associated company of Apparel Industries Ltd. Both these concerns are affiliated with Klein Mfg. Co. Ltd., which has operated Ferguson Atlantic since acquiring it in 1945.

Pike Mills Ltd., Quebec City, Que., a subsidiary of David Pike & Co. Ltd., Yorkshire, England, has completed installation of machinery and equipment at its worsted cloth manufacturing plant. The new building, which cost about $250,000, is a one-story structure with fireproof reinforced concrete and masonry walls with cork insulation and vapor seals. It measures 125x280 ft. and is located on 200,000 sq. ft. of land.

Sumner Hosiery Mills, Gastonia, N. C., has added another 60-gauge Lieberknecht full-fashioned machine. This is in addition to 60- and 51-gauge equipment already in place.

Waldesboro Hosiery Mill, Waldesboro, N. C., a division of Burlington Mills Corp., recently completed an expansion program inaugurated last spring. The program, which cost more than $1,000,000, doubled the size and capacity of the plant.

Webco Mills, Inc., Greensboro, N. C., has been incorpo-

News About **MILLS** (Continued)

rated with authorized capital of $300,000. The company is headed by Webb Durham, recently resigned as manager of the tricot division and head of the transportation department of Burlington Mills Corp. Mr. Durham will be in charge of operations of the new enterprise as treasurer and manager. A building especially designed for the production of high-quality textiles will be erected, either in Greensboro or Burlington, N. C. Latest high-speed, fine-gauge tricot machines and complementary equipment will be installed. Operations are expected to begin early next year. Other incorporators are Alice Kale and Elsie Fox of Greensboro.

Dyeing and Finishing Plants

Crystal Springs Bleachery, Inc., Chickamauga, Ga., is nearing completion of its extensive modernization program, which added 74,650 sq. ft. of floor space. Machinery, including 1,350 high-speed looms and new equipment in the bleachery, is now being installed.

East Braintree Finishing Co., East Braintree, Mass., has work under way on a new one-story addition. General contract recently was awarded to Clark & Smith, Inc., Quincy, Mass.

Fabric Dyers Ltd., Lachine, Que., has nearly doubled its production in the past few months due to installation of additional machinery and equipment. The company, which has a staff of 50, bleaches, dyes, and finishes a complete range of cotton fabrics. In addition, the company dyes and finishes corduroy, which is cut by Halifax Corduroy Ltd., who lease space in the Lachine plant.

Joliette Worsted Co., Joliette, Que., dyers and finishers of wool fabrics, plans to install new machinery and equipment in its plant. The plant is a modern one-story structure with 20,298 sq. ft. of floor space.

Lowell Bleachery South of Dundee Mills, Griffin, Ga., is installing a new Babcock & Wilcox 250-lb. pressure boiler together with pumps, induced draft fans, and other equipment.

Pinatel Piece Dye Works Ltd., Joliette, Que., has completed a major expansion involving additions to the main building. New machinery, including complete printing and engraving facilities, has also been installed. Total cost has been $250,000. About 20,000 sq. ft. of floor space has been added to the building, making a total of approximately 106,400 sq. ft. The major increase in floor space was 15,000 sq. ft. added to the dyeing and storage section. Three new enclosed dye boxes and two additional Duplex Van Vlaanderen stainless-steel units for handling fabrics in rope form have been installed, in addition to regular dyeing machinery. A National Drying Co. loop dryer has also been installed.

Quality Dyeing & Finishing Co., Paterson, N. J., has begun operations with a potential output of 30,000 yd. daily of acetate, rayon, and silk suitings. The company occupies 15,000 sq. ft. of floor space formerly occupied by Globe Dye Works. Equipment, manufactured by Van Vlaanderen and Warner, both in Paterson, includes 10 dye boxes, a boil-off unit, and a tentering frame.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., has installed an air-purification unit.

Rose Mills, Inc., Philadelphia, Pa., has purchased the complete equipment of Arthur Bone Co., Los Angeles, Calif., for the twisting and dyeing of novelty yarns. The equipment consists of 17 novelty twisters, 38 units of Smith-Drum dyeing equipment, several Klauder Weldon machines, and extensive auxiliary equipment.

Sayles-Biltmore Bleacheries, Asheville, N. C., has begun an expansion program involving construction of a concrete-and-steel building 475x100 ft. and installation of new machinery at a cost of approximately $500,000. The new addition will permit installation of machinery of a type to handle heavier and lighter goods than the present plant can handle.

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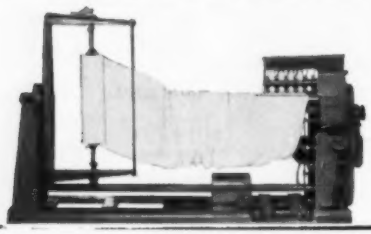

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NEWS ABOUT *Men*

W. Adamowics has resigned as overseer of dyeing at Farnsworth Mills of Cotwol Mfg. Co., Lisbon Center, Me., and has been succeeded by the second hand, **Martin Pierter.**

Leslie E. Anderson, Southern-district manager for Wamsutta Mills, New Bedford, Mass., has resigned that position to enter business for himself as a manufacturer's agent. He will continue to make his headquarters in Atlanta, Ga.

Edward Badsteuneur has become overseer of weaving for Neponset Woolen Mills, Canton, Mass.

J. M. Bailey, who has been plant manager of Judson Mills, Greenville, S. C., has been promoted to general manager.

Abraham Beck, Murray I. Gurfein, Orin G. Judd, Myer N. Sobiloff, and **Albert A. List** were elected directors of Aspinook Corp., Jewett City, Conn.

C. B. Bennett has been elected assistant treasurer of Standard-Coosa-Thatcher Co., Chattanooga, Tenn.

Charles Benson has been promoted to overseer of dyeing at the Bristol, R. I., plant of Collins & Aikman Corp., succeeding **Earl P. Matthewson.**

Rudolph Bergman has been made resident manager of American Woolen Co. Fulton Mills, Fulton, N. Y., succeeding **William Pickles,** resigned. Mr. Bergman had been manager of American Woolen's Manton Mills, Manton, R. I., which has closed for lack of orders.

C. P. Bishop, general sales manager of Dominion Textile Co. Ltd., Montreal, Que., has also been elected a director of the company.

William F. Boles, personnel manager of Ayer Mills of American Woolen Co., Lawrence, Mass., has resigned to become assistant personnel manager of Atlantic Mills Div., A. D. Juilliard & Co., Inc., Providence, R. I. **Ronald Clamp,** production engineer, succeeds Mr. Boles at Ayer Mills.

Senator P. H. Bouffard, K. C., was elected recently to the board of directors of Wabasso Cotton Co. Ltd., Three Rivers, Que., to succeed the late **Senator Lucien Moraud.**

John W. Bowman has been named vice president in charge of manufacturing at Berkshire Knitting Mills, Reading, Pa. **William C. Brenner,** formerly superintendent, has been appointed assistant to Mr. Bowman. Other appointments include: **Robert G. Ohlinger,** from superintendent in charge of maintenance to superintendent of plant engineering; **William E. Sheeler,** from foreman of the machinists' department to superintendent of production machinery; **Hans Halbach,** formerly in charge of inventory control in the mill, to superintendent of planning.

William Boyle has resigned as overseer of slashing at the Verney Corp. plant in Brunswick, Me.

Thurber H. Brice has been elected secretary-treasurer of Dan River Mills, Inc., Danville, Va. By the combination of these two positions **R. B. Newton,** president, has been relieved of the duties of treasurer. **Norman Waugh,** former secretary, will assist Mr. Brice.

George E. Brigham, manager of the Felters Co. plant in Johnson City, N. Y., for 25 years, has been named company consultant on general production problems. **Paul E. Waltz,** plant superintendent, succeeds Mr. Brigham as plant manager.

R. A. Buddington, Jr., has been elected comptroller for

News About **MEN** (Continued)

Rayonier, Inc., New York. **M. B. Houston** has been appointed assistant to the president.

G. W. Byrd is now superintendent of Robbins Mills, Inc., Robbins, N. C. He was formerly with Osage Mfg. Co., Bessemer City, N. C., where he was in charge of conversion from cotton to rayon spinning.

Edward Cameron has become overseer of dyeing at Dublin Woolen Mills, Dublin, Ga.

Donald M. Comer has been named to head the new executive committee of Avondale Mills, Sylacauga, Ala. He was former chairman of the board. **Hugh M. Comer**, president and treasurer since 1945, is now chairman of the board. **J. Craig Smith**, former executive vice president, was named president and treasurer. **B. B. Comer, Jr.**, was elected chairman of the finance commitee. The new executive committee is composed of its chairman, the chairman of the board, the chairman of the finance committee, and the president.

J. R. Davison, general manager of Royston Mills, Inc., Royston, Ga., has been elected a vice president of the company.

Raymond Dixon, who has been superintendent at American Woolen Co., Globe Mills, Utica, N. Y., has been transferred to the Fulton Mills, Fulton, N. Y., to hold a similar position.

Ernest Ellis has become associated with Special Fabrics Div., Duplan Corp., New York. Mr. Ellis was formerly with Nylon Div., E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Mrs. Eugenia W. Ford has been named president and treasurer of Ford Hosiery Mill, Inc., Hickory, N. C., succeeding her husband, the late **Albert S. Ford**. Other new officers of the company are **Henry L. Ford**, vice president; **Albert N. Spencer**, vice president; and **Larry C. Wiles**, assistant secretary and treasurer and general manager. **M. L. McCurry** is superintendent. The plant recently completed a rebuilding and renovation program to repair fire damage.

Samuel E. Furness, Jr., has become overseer of pin setting at Wood Worsted Mills, American Woolen Co., Lawrence, Mass.

Robert T. Garrison, vice president in charge of manufacturing of Cluett, Peabody & Co., Inc., New York, has been elected a director of the company.

Roy Gates has resigned as overseer of carding at Wyandotte Worsted Co., Pittsfield, Mass., and has been succeeded by **Baden McLean**.

R. B. Groves was elected a vice president of Peerless Spinning Corp., Lowell, N. C. **L. H. Heck** was named to the board. Other officers were reelected.

Frank T. Hayes, vice president of Chadbourn Hosiery Mills, Inc., Charlotte, N. C., was named to the firm's board of directors at a recent stockholders' meeting.

John T. Hjorth has been elected a director of Alexander Smith, Inc., Yonkers, N. Y. He succeeds **Harold C. Zulauf**, former director and vice president of industrial relations, who resigned recently.

Don Hooples, plant superintendent at Marengo Mills, Demopolis, Ala., recently was transferred to the executive offices of Vanity Fair Mills, Inc., Reading, Pa. Mr. Hooples will head the master control department of Vanity Fair, replacing **Carl Webber**, who has resigned to enter another line of business.

T. B. Jackson has become manager of Aragon-Baldwin Mills and Industrial Cotton Mills, Rock Hill, S. C., both affiliates of J. P. Stevens & Co. Mr. Jackson, associated with Industrial Cotton Mills since 1920, continues as assistant secretary of J. P. Stevens & Co.

William M. Keller has been appointed general factories manager of Fiberglas Textile Products Div., Owens-Corning Fiberglas Corp. Mr. Keller will make his headquarters in New York and will have charge of yarn-manufacturing operations in plants at Huntington and Ashton, R. I., and at Anderson, S. C. **Lloyd D.**

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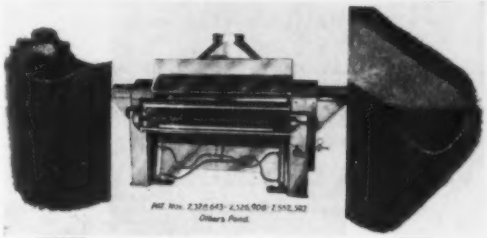

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News About MEN (Continued)

Wainfor, formerly production manager, will succeed Mr. Keller as manager of the Huntington, Pa., plant.

Raymond Kew has joined Orr Felt & Blanket Co., Piqua, Ohio, as overseer of felt finishing.

John Kolb, formerly with Proctor & Schwartz, Inc., has become assistant plant manager at Fred Whitaker Co., Philadelphia, Pa.

P. A. Koppe, Jr., has resigned as superintendent of Cowan Mill, Lewiston, Me. **John Meehan** has become superintendent, succeeding Mr. Koppe.

J. Kostka has become overseer of carding at Basin Mills, Inc., Orono, Me., succeeding **J. Cusson**.

William J. Leath has been appointed vice president of Chadbourn Hosiery Mills, Charlotte, N. C. Mr. Leath will continue to supervise operations of Full-Knit Hosiery Mills, Inc., Burlington, N. C., a subsidiary, of which he is vice president and general manager.

Henry A. Lineberger has been elected president and **Joseph W. Lineberger** has been named to the board of directors of Acme Spinning Co., Belmont, N. C. They succeed their brother, the late **A. C. Lineberger, Jr.** Other officers and board members were reelected.

George C. Logie, distribution manager of Brintons Ltd., Kidderminster, England, has retired after 43 years' service with the company.

Murdo MacGregor has become overseer of picking at Wyandotte Worsted Co., Waterville, Me.

John Mahon was elected to the board of directors of Worumbo Mfg. Co., Lisbon Falls, Me., succeeding the late **Oliver Moses, II.**

Alexander G. Marshall has been named assistant to **Gordon Bucknam**, president of Richmond Lace Works, Inc., Alton, R. I.

C. D. Nalley, for the past seven years assistant superintendent of Woodruff Mill, Woodruff, S. C., has been promoted to superintendent of Poinsett Mill, Greenville, S. C. Both are units of Abney Mills.

Fred W. Noechel has been appointed director of research for Goodall-Sanford, Inc., Sanford, Me. Mr. Noechel was formerly assistant to general manager for Southern worsted operations at Deering, Milliken & Co.

Thomas L. Osborne, who has been associated with Lane Cotton Mills Co., New Orleans, La., for six years, has resigned as vice president and director.

Al Parmentier has resigned as overseer of weaving at Sawyer Mills, American Woolen Co., Inc., Dover, N. H.

H. P. Pearson has been appointed general superintendent of Baltic Mills, Enfield, N. H., and of Mascoma Mills, Lebanon, N. H., both units of American Woolen Co.

Robert D. Pietrafesa was elected a director of Utica Knitting Co., Utica, N. Y. Mr. Pietrafesa succeeds the late **E. Perry Holder.** Mr. Pietrafesa is assistant to the president and a director of Joseph J. Pietrefesa Co. in Syracuse, N. Y.

John J. Repp, director of LaFrance Textiles Ltd., Woodstock, Ont., is now vice president of LaFrance Industries, New York. He has been a member of the executive staff of the company, as assistant to the president, since August, 1950.

D. H. Ritchie, secretary-treasurer of Bates & Innes Ltd., Carleton Place, Ont., retired recently.

Harold Rollins, formerly manager of the research department at Mohawk Carpet Mills, Inc., Amsterdam, N. Y., has been named manager of the distributor-requirement research branch, a new staff branch of the production-control and planning department.

Eugene P. Schremp, consulting editor of TEXTILE WORLD, has accepted a po-

News About **MEN** (Continued)

sition with Pacific Mills in Drakes Branch, Va. Mr. Schremp had been superintendent of weaving at American Woolen Co. Fulton Mills, Fulton, N. Y.

Lyman H. Smith has been named assistant to Brackett Parsons, president of Pepperell Mfg. Co., Boston, Mass. **Bernard F. Brady,** superintendent of sheeting, will succeed Mr. Smith as manager of the Biddeford, Me., plant.

Henry Stokes has been named to the board of Elmore Corp., Spindale, N. C. Other members elected include Messrs. **Elmore and Milner, Dr. John G. Mebane, V. M. Manning, E. L. Simmons, Dr. S. E. Elmore, Jr.,** and **H. T. Cosby.**

John Stott, for the past 24 years with Mercury Mills Ltd., Toronto, Ont., is now with the yarn-sales division of Monarch Knitting Co. Ltd., Toronto.

Lyman Thompson has been appointed assistant to **E. W. Steward,** president of Catalina, Inc., Los Angeles, Calif.

J. R. Timmerman, for the past year superintendent of the Modena unit of Burlington Mills, Gastonia, N. C., has resigned to accept another textile position in Gaston County. **Roy Rogers,** superintendent of Ranlo unit of Burlington, will also be superintendent of Modena. **J. C. Sproull,** who has been with Burlington Mills, Gastonia, N. C., for the past year, will become assistant superintendent at Modena.

Robert Train has been elected vice president of Bibb Mfg. Co., Macon, Ga., to succeed the late **Fred G. Barnes** as executive in charge of raw materials.

John H. Vogt has resigned as secretary-treasurer and a director of Nolde & Horst Co., Reading, Pa. Mr. Vogt had held these positions on a temporary basis. He plans to devote his time to his own company, Vogt Knitting Mills, Reading, Pa.

J. T. Wardlaw has retired as treasurer of Drayton Mills, Spartanburg, S. C., but will continue as a member of the board. **Alan B. Sibley,** vice president and general manager of Judson Mills, Greenville, S. C., Gerrish-Milliken Mill, Pendleton, S. C., Gayley Mill, Marietta, Ga., and Kingsley Mill, Thompson, Ga., will succeed Mr. Wardlaw as treasurer.

Joseph M. Wasiuk has become overseer of weaving at W. J. Dickey & Sons, Inc., Oella, Md.

P. Jennings White has been named superintendent of the Greer plant of Victor Monaghan Co., division of J. P. Stevens, Inc., Greer, S. C. Mr. White had been overseer of carding at Dunean Mills, Greenville, S. C., for the past two years. He succeeds **H. P. Glenn,** recently resigned.

Charles H. Wisher, former vice president, has been named president and managing director of Brinton-Peterboro Carpet Co., Peterborough, Que., succeeding **John M. Mackie,** retired from both positions. Mr. Mackie will serve as chairman of the board. Other appointments include: **J. J. McGillis,** director, vice president; **W. G. Cass,** reappointed secretary and elected a director; **A. H. Cocks,** reappointed treasurer.

William W. Wolbach, Boston, Mass., was named chairman of the board at West Point Mfg. Co., West Point, Ga. **Harry Atherton,** president of Palmetto Cotton Mills, Boston, was elected a director of the company. **John A. Simmons,** former vice president and general manager of the related Lanett Bleachery & Dye Works, was elected president of that company to succeed **J. L. Lanier,** who was named Lanett's chairman of the board. **A. O. Benton,** former Lanett superintendent, was elected vice president.

John R. Woods, assistant general manager of York Knitting Mills Ltd., Toronto, Ont., has been elected a director.

Harold C. Zulauf and **Maitland L. Griggs** have retired as vice presidents of Alexander Smith, Inc., Yonkers, N. Y. Mr. Zulauf was vice president in charge of industrial relations, and Mr. Griggs was vice president in charge of special services.

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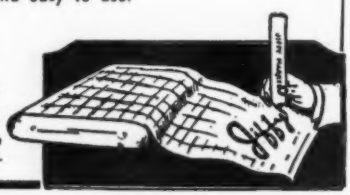

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OBITUARY

Harold S. Bottomley, 64, a partner in Howland Croft Sons & Co., Camden, N. J.

Earl H. Brown, 72, owner and operator of the Brown-Cannon Co., Dillon, S. C. He was formerly general manager and assistant treasurer of Carolina Mills, Inc., Dillon.

William J. Buck, thread manager of Belding-Corticelli Ltd., Montreal, Canada. He had been associated with the company for more than 47 years.

John Chadwick, 86, retired superintendent of the worsted yarn department of Dominion Woolens & Worsteds Ltd., Hespeler, Ont.

Matthew A. Collins, 75, former vice president and plant superintendent of Lockport Cotton Batting Co., Lockport, N. Y.

Henry H. Crapo, 89, president of Mount Hope Finishing Co., North Dighton, Mass., from 1926 to 1946.

James B. Crowder, overseer of spinning at the Elm City plant of Callaway Mills Co., La Grange, Ga.

Fred Ellisor Darby, 56, overseer of the weave room of the Mollohon Plant, Kendall Mills, Newberry, S. C.

Frank Davis, 88, founder of Frank Davis Mfg. Co., Inc., Pawtucket, R. I.

Henry K. Deisher, 84, former owner of the Deisher Knitting Mills, Kutztown, Pa.

Richard Dinie, 78, retired foreman of Alexander Smith, Inc., Yonkers, N. Y.

Mrs. George A. Dorr, vice president and treasurer of Dorr Woolen Co., Guild, N. H.

Otto G. Fischer, 87, former general production director of Belding Heminway Co., Inc., New York, N. Y.

John S. Fisher, 75, president and general manager of Best Made Silk Hosiery Co., Inc., Quakertown, Pa.

Irvin Greenberg, 39, co-owner of Monticello Cotton Mills, Inc., and Monticello Charm Tred Mills, Monticello, Ark.

ARTHUR BESSE, 64, for the last 18 years president of the National Assn. of Wool Manufacturers, died recently in New York. He was associated with his father for many years in the family retail clothing firm, the Besse System Co.

Eugene C. Gwaltney, 69, vice president of Saco-Lowell Shops in Biddeford, Me. A noted inventor of improvements to textile machinery, Mr. Gwaltney had headed the research and development department of Saco-Lowell since 1939.

Cornelius Lucky Hamilton, 67, president of Crown Cotton Mills, Inc., Dalton, Ga.

Joseph J. Harney, 51, former vice president and general manager of Firestone Textiles, New Bedford, Mass.

William M. Kickline, 68, president of the Ludlow Mfg. & Sales Co., Ludlow, Mass., for 16 years before his retirement in 1948.

Austin T. Levy, 70, president of the Harrisville Co., Harrisville, R. I.

Frank E. Masland, 84, a founder in 1886 and chairman of the board of C. H. Masland & Sons, Carlisle, Pa.

Walter E. Morton, 70, retired superintendent of Central Mills, York, S. C.

Hilliard A. Robertson, Southern president of Joanna Western Mills Co., Chicago, Ill.

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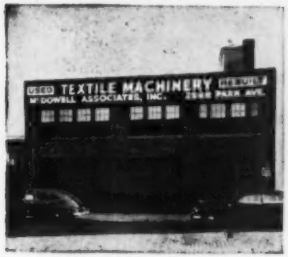

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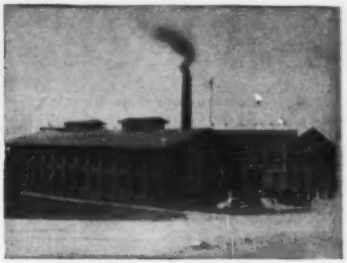

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1 SCUTCHER 78" mtrzd.
1 SINGER TWO BURNER, infra-red 60".
1 SLASHER 9 can, 62", takes 80" beams.
1 SLASHER, Hot Air, takes 64" beams.
1 SQUEEZE SET, 3 roll, 75", S. & L. pressure.
1 SQUEEZE SET, 2 roll, 65½", SS Dry Can overhead.
1 TEASEL GIG 66", Brush Legs and 4 adj. contacts.
1 TENTER FRAME 40" x 54", SS blades and inserts.
1 WASHER, Greige, 72" with 17 SS Cans, 132".
1 WASHER (Soaper) 7 tanks, 50".
2 WINDERS, tube, 50"-60".

WOOLEN & WORSTED

1 STEAM BRUSH, 2 cyl. 66".
12 CARDS, 48 x 48, ring doffers.
2 CHINCHILLA UNITS, 80", platens, etc.
2 Upright Return Air CONDENSORS.
2 TAPE CONDENSORS 60", 96 ends.
2 WOOL CARDS, Iron, 3 cyl. 80" x 60" Tape Condensors.
10 NOBLE COMBS, with Noil regulators.
1 SEMI-DECATUR, 72", pump, etc.
1 DEWING MACHINE 60", brass discs.
2 DOUBLERS 66"-80", Clo'h.
18 CENTER BROAD BAND FEEDS, 48" J-1 conveyors.
1 FULLING MILL, Express type, double compartment.
1 FEEDER, 60", Model EL.
2 GARNETTS, 3 cylinders, 30 x 60, with feeders.
2 GILL BOXES, 2 spdl. inter-secting.
1 G'LL BOX, 8 head, intersecting.
40 C&K LOOMS, 92", auto.
72 C&K Veri-Best LOOMS, 82" auto.
48 C&K W3 LOOMS, 82" auto.
10 C&K W3 LOOMS, 92" auto.
1 MEASURING MACHINE, A.W.C. Model, 66".
5 MULES, 360 spdls. ea. 2⅛" gau. 8¾" bobbin.

1941 MODEL OR LATER

17 Sturtevant WASTE END BLOWERS, ducting and motors.
6 Whitin Iron 3 cyl. Wool CARDS, 60" x 60", with Peraltas, Tape Condensers 120 ends, mtrzd.
1 Worthington AIR COMPRESSOR 7 x 7 with 20 HP motor.
1 Chandler SWATCH CUTTING MACHINE, 32" cloth.
18 Whitin 48" SCOTCH INTERMEDIATE FEEDS, J-1 Conveyors.
1 R. Hunt EXPRESS FULLING MILL, dbl. comp.
8 C&K W3 LOOMS, Bijur Lubricators, 92" auto. 4x1, 25 har. mtrzd.
1 Louden MONORAIL TRACK SYSTEM.
5 J&B MULES G.P. 312 spdls. ea., 2½" ga., 13½" bobbin.
3 J&B MULES G.P., 336 spdls. ea., 2½" ga., 13½" bobbin.
1 D&F Iron Fearnaught PICKER 48", feeder, oiler, 4 nozzle spray, blower, etc.
1 Worthington VACUUM PUMP 18 x 7 with 25 HP motor.
48 U.S. Radium IONOTRON STATIC ELIMINATORS.
1 Toledo SCALE, style #9612 with scray.
1 Gessner SCUTCHER, 78" brass beaters, scroll rolls, Folder, Reeves & Motor.
1 C&M SHEAR high speed, BB 66½", mtrzd.
1 P&S SHREDDER 60" x 30" dia. cyl.
1 R&L SOAPER 42" wide with 2 pr. SS Squeeze Rolls.
6 D&F WOOL SPINNING FRAMES, mod. E, 120 spdls. ea. 6½" ga. Bijur Lubricators.
1 Hoffman VACUUM SWEEPING SYSTEM, fittings, tank, pump, etc.
1 R&L CONTINUOUS CLOTH ROPE WASHER, 12 string.
2 Abbott Mod. 65, fully auto. CONE WINDERS, 108 spdls. ea., mtrzd.
1 Foster Mod. 102 CONE WINDER, 100 spdls. mtrzd.
6 Werner SS Dye Jiggs 60"-70" mtrzd.
1 WASHER, 2 rubber rolls, 96".
1 NEW FLEETLINE WASHER, 12 cypress tanks, squeeze rolls, controls, etc.

8 MULES, 312/336 spdls., 2½" gau. 13½" bobbins.
1 MIXING PICKER 40", 4 feed rolls.
1 FEARNAUGHT PICKER, Iron, 48 x 50" cyl.
1 OPENING PICKER 60", SS pins.

1 RAG PICKER 42", workers on cyl.
5 RAG PICKERS 18" O.W. x 38" O.D. cyls.
1 STEAM PRESS 86", double bed.
3 DRESSING REELS, pinless, 105" wide, beamer, compressor, etc.
1 ROVING FRAME, Ring, 32 spdls. 8x4.
1 SCOURING UNIT, Raw Stock 3 bowl, 36" with dryer.
2 SCOURING UNITS, Raw Stock, 6 bowl, 48" with dryer.
2 SHEARS, Model A, 66½", double cutter.
1 SHEAR, High-Speed, Yankee Clipper, BB, 66".
1 SHREDDER 60" late type.
1 SOAPER, 2 pair SS rolls.
4 SPINNING FRAMES, Model A, 180 spdls. ea. 4" gau.
2 SPINNING FRAMES, Model E, 120 spdls. ea. 6½" gau.
8 SPOOLERS, High Speed, 40 end, detectors, etc.
1 TACKING & DOUBLING MACHINE, 90", sewing head.
1 TWISTER 5½" gau., 132 spdls.
3 TWISTERS, 200 spdls. ea. 3½" gau.
8 TWISTERS, 152 spdls. ea. 4½" gau.
2 WARP REELS, Pin type, 82", beamer, compressor, etc.

COTTON

1 BALE BREAKER 9', Extended Apron.
1 LATTICE CLEANER #12, 4 blade beater.
1 HORIZONTAL CLEANER, BB beater.
6 NASMITH COMBERS 12½" with aspirators.
1 FLOOR CONDENSOR BB, Fluted rolls.
25 COTTON CARDS 45", 27" doffers, 12" coilers.
1 FLAT CARD GRINDER, 47" x 9" d'a. roll.
8 INTERMEDIATES 9 x 4½, BB, top rolls, 124 spdls. ea.
2 INTERMEDIATES 8 x 4, BB, top rolls, 160 spdls. ea.
48 Del veries of Drawing, metallic rolls, 12" coilers.
2 BREAKER LAPPERS, 45" hoppers and calender rolls.
2 FINISHER LAPPERS, 45", P&D Evaners.
2 VERTICAL OPENERS, Adj. grid bars.
1 ROVING FRAME 8 x 4 L.D. 152 spdls.
3 SLUBBERS 5½ x 11, BB top rolls, 72 spdls. ea.
10 Speeders 7 x 3½, BB top rolls, 176/184 spdls.
24 SPINNING FRAMES, 3" gau. 204/216/240 spdle units.
1 LAP SCALE 100 lbs. ¼ lb. readings.
1 SPOOLER 80 spdls. 5" gau.
1 BOBBIN STRIPPER for Roving Bobbins.
1 WET TWISTER, 200 spdls. 3½" gau.
1 SECTIONAL WARPER 78" Magazine Creel, 396 live ends.
1 WASTE MACHINE, Model W3, single beater.
1 WINDER, Model 102 100 spdls.
1 WINDER, Model 12, 60 spdls. combination tubes and cones.
2 ABBOTT Model 65 CONE WINDERS, fully auto. 108 spdls. ea.

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1—Aldrich single beater cylinder opener, 1947.
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2—Aldrich 40" single process pickers, 3 beaters, 1947.
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29—Whitin 40" cards, 27" doffers, 12" coilers, 1917 and 1929.
6—Saco-Lowell drawing frames, 5 deliveries each, cushion top rolls, 12" coilers, 1917.
4—Saco-Lowell 9x4½ slubbers, 104 spindles each, J3 long draft.
4—Whitin 9x4½ slubbers, 96 spindles each, Whitin interdraft.
2—Woonsocket 9x4½ slubbers, 104 spindles each, Whitin interdraft.
6—Saco-Lowell 8x4 slubbers, 152 spindles each, Saco-Lowell J3 l.d.
2—Saco-Lowell 8x4 slubbers, 128 spindles each, Whitin interdraft.
1—Abbott Model 65 cone winder, 160 spindles.
3—Woonsocket 8x4 slubbers, 152 spindles each, H&B 5-roll l.d.
6—Whitin 8x4 speeders, 120 spindles each, regular draft.
8—Whitin 7x3½ speeders, 160 spindles each, regular draft.
46—Fales & Jenks spinning frames, 3¼" gauge, 2" ring, 252 spindles each, tape drive, Roth long draft.
2—Foster Model 102 winders, 100 spindles each, 1945, paper cones.
1—Foster Model 23 winder, 60 spindles, 8" traverse, paper cones.
1—Foster Model 57 doubler, 100 spindles.
1—Universal Roto-Coner, 120 spindles, 1946, paper cones.
1—Saco-Lowell high speed warper with magazine creel.
18—Draper Modified D 40" looms.
100—Draper Modified D 60" looms.
150—C&K 4 x 1 box automatic looms, 25 harness, 48½" b.s.

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16—Draper Twisters, 3" ga, 200 spdls, tape drive
14—F&J Twisters, 2¾" ga, 256 spdls, band drive
8—H&B Twisters, 4½" ga, 132 spdls, band drive
2—H&B Twisters, 3" ga, 228 spdls, tape drive
4—D&F Twisters, 5" ga, 80 spdls, band drive
4—Foster Winders #30, 100 spdls, 6" cones or tubes, M.D.
2—Universal 60 GF Winders, 96 spdls.
22—Dobson & Barlow 41" Cards, 24" doffer
1—V.V. Calender, 3 rolls, 60"
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200—Draper E looms, 40" belt
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2—V.V. Tensionless Dye Jiggs, 50", auto. reversing

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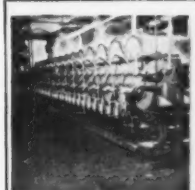

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30—54" B.S. C&K 4x1 Plain Looms, dobbies, motor driven
10—56" C&K 2x1 5-3 Auto. Shuttle Change Looms, 25 harness
24—72" B.S. Draper Mod. D 2x1 Looms, with jacquards
8—72", 84" B.S. C&K 4x4 Box Looms with jacquards
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60—79½", 82" Draper Mod. D Looms, 20 harness, motor driven
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Takes wood bobbins 8" x 1½"
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AATCC Papers

(*Continued from page 149*)

Abrasion Detection

Another possible application of infared was thought to be in the study of abrasion. Dye streaks caused by pre-dyed abrasion may be exaggerated in infared exposures. In view of this fact, perhaps undyed abrasion could be studied to advantage with the use of infrared.

Several cases were examined, such as (1) abraded samples of cotton, wool, viscose, acetate, and nylon, (2) cotton grey goods, abraded and boiled-off, with residual caustic and without residual caustic, and (3) a sample of white cotton twill containing abrasion marks from commercial processing. Of these, the only one that produced useful results was the latter, which showed the abrasion marks visibly when viewed at a certain angle.

At the angle of maximum visual appearance, an infared photograph was taken. The abrasion was contrasted to a pronounced advantage in the infared. Several other trials produced the same results so long as the angle of maximum visual appearance was used. For any other angle, including the horizontal position, the marks did not appear.

These results seem to indicate that while most abrasion is not detectable in infrared photographs, certain types under the right conditions can be studied advantageously.

Steam-Filled Machinery

A study was made of the interior of a dye beck in which the presence of steam prevented a clear view of the reel. The infrared photograph show a decided improvement in the appearance of details in spite of the adverse conditions. It would appear then, that should it ever be necessary or desirable to make pictures under similar conditions, the use of infrared would definitely produce the best results.

Resinous-Copper Complexes Clear Up COTTON PRINTS*

By ALBERT P. ROYLE
Sandoz Chemical Works

Fixing direct colors with a resinous-copper complex improves fastness, but it creates difficulties in printing.

Where colors are printed and then treated, the resinous-copper complex itself stains the white portion of the

** This and the succeeding paper were presented at the AATCC technical sessions and would have appeared in TW last month if there had been no last-minute space limitations.*

cotton goods, although the printed color remains sharp and fast.

Where discharge printing is done on a colored ground aftertreated with the complex, poor discharge of printing color is obtained. The copper in the dye complex combines with the sulfur of the reducing agent during the aging process, and a grayish or creamy white is invariably produced.

The program with which this paper is concerned was aimed at preventing these permanent stains.

Satisfactory whites were produced in this manner: A sodium salt of a synthetically prepared polyamino acid was added to the discharge paste, and the goods were treated in an ager. The dirty gray color produced in the ager was removed by washing the goods with a detergent bath to which small amounts of acetic acid and hydrogen peroxide were added.

Good aftertreatment of prints was obtained as follows: Goods were printed, steamed, and aftertreated in the usual manner. The first rinse in plain cold water was done carefully to insure thorough rinsing away of excess paste and dyestuff that might discolor the white portions of the goods. (If insufficient rinse water is used or heavy shades are being processed, a mild soaping before the cold-water rinse may be necessary.)

After the rinse, the resinous-copper-complex bath is used. Concentration and temperature depend on the time the goods remain in the bath. For short immersion time, concentration and temperature must be high. For long immersion time, as in a slop washer, strength and temperature may be low.

This treatment produces a stained white; washing must be done carefully to clear up the stain. A soaping bath containing a mild detergent and small amounts of acetic acid and hydrogen peroxide will produce fast prints and clear whites. If printing is done on colored grounds, the acetic acid and peroxide are not needed.

Latest PRINTING Techniques Aim at Speed and Versatility

By OTTO F. HABEL
General Dyestuff Corp.

Resist Printing

Stylist and printer have full range for their ingenuity in fast-color resist prints. White and colored resists, including overlaps of different dyestuff groups, can give effects not possible with any other printing method.

Resist printing is essentially printing with a paste containing aluminum sulfate on a naphthalated ground and

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coupling, after drying, with variamine blue salt. The sulfate destroys the naphtholated ground, and only the undestroyed part is affected by the salt.

If a white pattern is desired, only the aluminum sulfate is used. If a red or orange colored effect is desired, a fast-color salt is used with the sulfate. If yellow, gray, green, or light blue effects are desired, algosols printed by the aluminum-chlorate method are used with the aluminum sulfate.

Photographic Printing

Photographic images produced on sensitized cloth are possible principally because certain leuco vat esters (algosols or indigosols) can be developed by light exposure. Cloth is colored with a vat dye and treated with algosol or indigosol. The cloth is then passed through the developing light.

The light comes from a high-pressure mercury lamp that gives off ultraviolet rays. The lamp is located within a plexiglass cylinder, and the photographic negative is attached to the outside of the cylinder. As the cloth passes through the copying machine, light passes through the pattern of the negative and is retarded by the portion of the negative where no pattern appears. The light passing through the negative develops its pattern on the algosol-sensitized cloth.

Undeveloped algosol is stripped off the cloth by a hot sodium-silicate bath.

Fluorescent Colors

For acetate and nylon fabrics, printers widely use such fluorescent colors as brilliant sulphoflavine, thioflavine, eozine, and rhodamine with additions of ammonium sulphocyanide for acetate fabrics and tartaric acid for nylon fabrics.

For cotton and rayon fabrics, these fluorescent colors are used with a resinous emulsion for the color carrier and binder.

A final heat curing is necessary.

Vat Colors ("Flash" Aging)

The "flash method" of fixing vat colors speeds up the aging process necessary for vat-color prints from the normal 7 min. to about 30 sec.

In this method, vat colors are printed without such hygroscopic agents as glycerine. Instead of glycerine, either locust-bean gum or collapret DKN (a methyl-cellulose compound) and a small amount of starch as a thickening agent are used as additives.

After drying, the prints are padded with caustic and hydrosulphite, steamed at 230 to 240° F. for 20 sec., oxidized, and washed.

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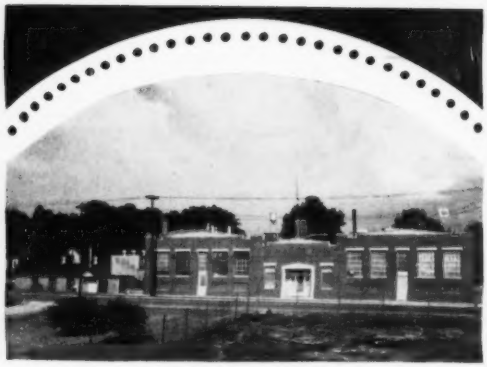

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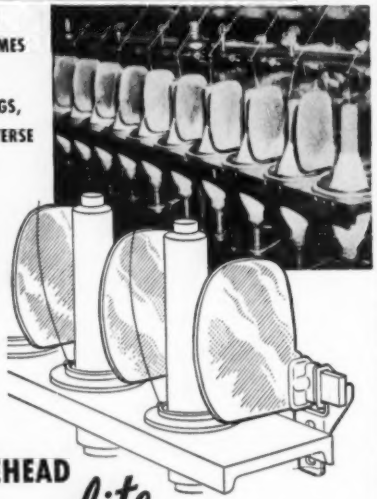

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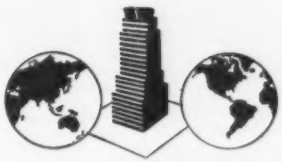

▸ Brief Summaries in Spanish, French, and German of the Major Feature Articles in This Month's Issue

Español

Página 97

Costos del Remetido. La operación de una máquina de remetido ha reducido el costo de remetido de los urdimbres de algodón de fantasía en más de las dos terceras partes. En el artículo se ofrecen las cifras de costo y de tiempo ahorrado. La nueva máquina requiere en total tres operarios, pero puede remeter un urdimbre pequeño en 40 minutos. Anteriormente, el remetido manual tomaba en esta fábrica 300 minutos. Se dice que la calidad ha mejorado y que ha aumentado la versatilidad de la fábrica.

Página 100

Manipulación de Sintéticos Nuevos en el Sistema de Lanas. Se ofrece información práctica para hacer hilos en los sistemas de lana utilizando las nuevas fibras acrílicas, tales como el Acrilan, Orlon, y dynel. La picada debe ser lo más ligera posible. Las fibras sintéticas no deben ser engrasadas porque todas tienen un acabado sobre ellas al recibirse del fabricante. Las tablas ofrecidas dan información completa sobre los ajustes y velocidades de carda. Se aconseja el uso de eliminadores de estática, especialmente cuando se elaboran las fibras 100 por ciento sintéticas. Estas no deben estirarse en el condensador de cinta. Deben usarse canillas o carreteles grandes de peso liviano para reducir al mínimo el efecto de trituracion.

Página 104

Ahorro de Tiempo y Trabajo en el Teñido en Bobinas. Este artículo describe o relaciona los métodos y el equipo usado en una moderna tintorería de bobinas. Se utiliza una carretilla de horquilla para cargar las teñidoras. El ciclo del teñido es regulado por instrumentos. Se usan máquinas extractoras del tipo de presión, así como secadoras de aire caliente que producen 3.500 pies cúbicos de aire caliente por minuto.

Página 106

Estudio de las Paradas de los Telares. En este artículo el autor hace ciertas declaraciones sobre el comportamiento del telar y la significación del aumento

Français

Page 97

Prix de revient des rentrages de chaînes. L'emploi d'une rentreuse automatique réduisit de deux tiers les frais de rentrage d'une chaîne fantaisie coton. Il faut trois personnes pour opérer cette machine mais elle rentre une petit chaîne en 40 minutes, tandisqu'à la main il fallait 5 heures. Quant à la qualité de l'ouvrage, elle est paraît-il améliorée. Le nouveau système permet aussi une plus grande diversité de dessins.

Page 100

Filature des nouvelles fibres synthétiques sur les systèmes de filature de cardé. Vous trouverez dans cet article des renseignements sur la filature de fibres acryliques telles que l'Acrilan, l'Orlon et le dynel. Le battage doit se faire aussi légèrement que possible. L'ensimage est à éviter, car toutes ces fibres ont été traitées par leur producteur et ont donc un apprêt. Des chartes vous donneront les vitesses des cardes et leur réglages. On recommande l'emploi d'appareils anti-statique si l'on file 100% de synthétique. Evitez toute élongation au condenseur à lanières. Employez des bobines légères pour éviter les écrasements.

Page 104

Economies de temps et de main-d'oeuvre réalisées en teinture de fil bobiné. Cet article décrit l'équipement et les méthodes employées dans une tenturerie de fil bobiné moderne. Le chargement des machines à teindre se fait au moyen d'un chariot électrique à fourche. La durée des cycles de teinture est contrôlée au moyen d'appareils automatiques. Après teinture les bobines sont traitées dans des essoreuses à pression et dans des souffleuses d'air chaud produisant 3500 pieds cubes d'air chaud à la minute.

Page 106

Etude sur les arrêts de métiers à tisser. L'auteur donne dans cet article le résultat des recherches qu'il a faites dans une des usines les plus importantes du pays. Cette étude fut faite dans le but de tirer un certain genre des conclusions par l'emploi des lois de probabi-

Deutsch

Seite 97

Einziehkosten. Verwendung einer Einziehmaschine hat die Einziehkosten an mehrfaerbigen Baumwollketten um ⅔ erniedrigt. Es werden sowohl Zeitersparnisse als auch Ziffern angefuehrt. Die neue Maschine benoetigt nur 3 Arbeiter; es kann eine kurze Kette in 40 Minuten eingezogen werden. Handeinzug benoetigt 300 Minuten in dieser Modewarenfabrik. Man sagt, dass die Qualitaet verbessert und die Vielseitigkeit in dieser Fabrik erhoeht wurde.

Seite 100

Behandlung von neuen Kunstfasern auf dem Streichgarn System. Es wurde eine praktische Anleitung fuer die Garnerzeugung von Acrylic Fasern, wie z.Bsp. Acrilan, Orlon und Dynel, auf Streichgarnmaschinen gegeben. Wolfen soll so leicht als moeglich geschehen. Die Kunstfasern sollen nicht gespickt werden, da sie alle eine Appretur haben, wenn sie vom Erzeuger kommen. Tabellen geben vollkommen Auskunft ueber Geschwindigkeit und Einstellung des Krempelsatzes. Es wird die Verwendung von "Static Entfernern" fuer die Karden empfohlen, speziell wenn 100% Kunstfasermischungen verarbeitet werden. Die Riemchen am Florteiler sollen nicht gespannt sein. Es sollen leichte Garnspulen verwendet werden, um das Zerdruecken des Vorgarnes auf ein Minimum zu halten.

Seite 104

Zeit- und Arbeitsersparnis im Buendelfaerben. Es werden die Methoden angefuehrt und das Equipment beschrieben, die in einer modernen Strangfaerberei gebraucht werden. Ein Karren mit Gabelhebevorrichtung wird zum Anfuellen der Faerbemaschinen benuetzt. Faerbezyklen werden durch Instrumente kontrolliert. Mit Druck arbeitende Extraktoren werden verwendet als auch Heisslufttrockner, welche 3500 Kubikfuss Heissluft per Minute liefern.

Seite 106

Webstuhlstillstaende werden studiert. In diesem Artikel macht der Autor gewisse Feststellungen ueber die Gangart des Webstuhles und die Bedeutung

o disminución de las paradas de los telares. Las declaraciones sobre la intermitencia de las paradas de telar están basadas en prolongados estudios hechos por el autor en uno de los telares más prósperos de la nación. Las fórmulas y vertificaciones sobre la significación de las paradas de telar están basadas en estudios de las leyes de probabilidades con la aplicación de los principios de distribución Poisson (llamado así por el gran matemático francés Poisson).

Página 110

Prácticas de Hilatura. Docenas de fábricas se han unido para hacer posible este informe. Han proporcionado datos efectivos de su experiencia en cuestiones tales como cilindros metalizados para estirar géneros (los cuales parecen gustar a todo el mundo—la razón es la reducción del costo), cuidado de lanzaderas (los mecánicos de telares cuidan de las lanzaderas y las instalan bajo la supervisión del segundo contramaestre), rebobinado de trama (este proceso extra está ahorrando dinero al aumentar la eficiencia del telar y reducir el tiempo de llenado de las baterías de canillas), y desechos de la sala de tejedura (se ejerce control cuidadoso en todo tipo de desperdicio para reducir al mínimo las pérdidas de materias primas).

Página 114

Análisis de Apertura y Selección. El artículo ofrece tres posibles distribuciones de departamentos de apertura y selección para una fábrica de 50.000 husos que produce el 60 por ciento de urdimbres de número 30 y el 40 por ciento de tramas de 40, de algodón "strict low middling" de 1 pulgada, junto con las razones para la selección de cada máquina. Un pronóstico es que la sosecha de algodón en los E.U.A. en 1951 contendrá alrededor del 30 por ciento de algodón "pobre" debido a las grandes variaciones del tiempo, según el informe.

Página 122

Conferencia Sobre Adelantos Técnicos. En la reunión anual del "Textile Research Institute" se dijo que el actual alto nivel del progreso de investigación depende de la cooperación de todas las fases de la industria. La técnica y los procedimientos de la posguerra están comenzando a rendir réditos en las fábricas. Los últimos pasos en la búsqueda interminable de mejoramientos y de la simplificación de la técnica fueron tratados ampliamente. Una proyección fué la exhibición de nuevas fibras y equipos de ensayo, celebrada al mismo tiempo de la reunión, hizo resaltar varias nuevas piezas de aparatos de ensayo.

Página 125

Problemas de Encolado Ventilados en Alabama. En este informe se ofrecen las costumbres actuales de una fábrica de los E.U.A. para el encolado de hilos, cuyo informe fué presentado en una reunión de encargados de producción. El artículo comprende la última información sobre el uso del homogenizador

lités et des théories du mathématicien français Poisson.

Page 110

Ce que disent les tissages. Cette étude ne fut possible que grâce aux réponses fournies par plusieurs douzaines de tissages sur les points suivants: rouleaux d'enroulage des métiers traités par le procédé de métallisation (tout le monde semble les apprécier vu l'économie qu'ils représentent); soins à donner aux navettes (ce sont les régleurs de métiers qui s'en occupent et qui les placent sous le contrôle des adjoints de chef de salle); rebobinage de la trame (opération supplémentaire qui en fin de compte se traduit par une économie grâce à un accroissement du rendement et une réduction du temps nécessaire au garnissage des batteries de trame); réduction du déchet des salles de tissage (chasse aux déchets inutiles et réduction des pertes qui résultent de ce fait).

Page 114

De l'ouvraison du coton et du battage. Prenant comme example une filature de 50.000 broches produisant 60% de chaîne numéro 30 et 40% de trame numéro 40 et employant du "strict low middling" d'un pouce l'article décrit trois assortiments de machines avec le pour et le contre de chaque assortiment. L'article prédit également que la récolte américaine de 1951 comprendra 30% de coton inférieur dû aux extrêmes de températures de cette année.

Page 122

Du progrès des recherches industrielles. Ce n'est que par son concours sans réserve que l'industrie peut espérer que les progrès réalisés par le laboratoire de recherches peuvent être maintenus. Cette conclusion se dégage du meeting annuel de l'Institut de Recherches Textiles. Les procédés et techniques de l'après guerre ont atteint le point où leur application pratique dans l'usine est devenu possible. On discuta du rôle du laboratoire dans la recherche continue vers l'amélioration et la simplification des procédés de fabrication. On avait organisé, à l'occasion de ce meeting, une exposition des fibres textiles synthétiques les plus récentes et l'on exposa pour la circonstance différents appareils d'essais nouveaux, servant aux contrôles effectués dans le laboratoire.

Page 125

Un meeting dans l'Alabama discute des questions d'encollage. Cette discussion générale discuta de l'emploi des appareils pour l'homogénéisation des encollages. L'article traite aussi du recouvrage des rouleaux de pression. Parlant d'encolleuses munies de plusieurs moteurs individuels l'article attribue à ce système un accroissement de la production et des ensouples ayant des chaînes plus longues. Les encolleuses à air chaud sont aussi discutées dans cet article.

der Zu- oder Abnahme der Webstuhlstillstaende. Feststellungen der beilaeufigen Webstuhlstillstaende sind auf lange Studien basiert, die der Autor in einer der fortschrittlichsten Fabriken dieses Landes gemacht hat. Die Formeln und Feststellungen der Bedeutung der Webstuhlstillstaende sind auf das Wahrscheinlichkeitsprinzip aufgebaut, unter Anwendung des Poisson Verteilungsprinzipes (nach dem franz. Mathematiker Poisson benannt).

Seite 110

Webereigepflogenheiten. Dutzende von Fabriken arbeiteten gemeinsam, um diesen Report zu ermoeglichen. Sie geben wirkliche Erfahrung in solchen Webangelegenheiten wie metallisierten Abnehmerrollen (sie scheinen Anklang zu finden; Grund: reduzierte Kosten), Pflege des Webschiffchens (der Webstuhlmechaniker traegt fuer die Webschiffchen Sorge und installiert sie unter Aufsicht des Hilfsmeisters), wiederaufgewundene Schusskopse (dieser extra Prozess spart Geld durch Erhoehung der Webstuhlleistungsfaehigkeit und Herabsetzung der Zeit zur Fuellung des Magazines), und Websaalabfall (sorgsame Kontrolle wird auf alle Abfallarten ausgeuebt, um Verluste an Rohmaterialien auf ein Minimum zu halten).

Seite 114

Oeffnen und Picken wird analysiert. Es werden 3 moegliche Anlagen fuer eine Fabrik mit 50,000 Spindeln eroertert, die, unter Anfuehrung der Gruende fuer die Auswahl jeder Maschine, 60% 30/1er Kette und 40% 40/1er Schuss von 1-in. "strict low middling" Baumwolle, erzeugt. Eine Voraussage wird gemacht, dass zufolge der extremen Witterungsverhaeltnisse die Baumwollernte in 1951 ca. 30% schlechtere Baumwolle enthalten wird.

Seite 122

Besprechungen ueber Forschungsfortschritte. Bei der letzten Jahresversammlung des Textilforschungsinstitutes wurde festgestellt, dass das gegenwaertige hohe Niveau des Forschungsprogrammes von der Mitarbeit aller Teile der Industrie abhaengt. Nachkriegsverfahren und -Techniken fangen an den Fabriken Dividenden zu bringen. Die neuesten Schritte in der endlosen Suche nach Verbeserungen und Vereinfachungen der Techniken wurden besprochen. Eine Ausstellung von neuen Fasern und Versuchsbehelfen, die gleichzeitig mit dem Meeting stattfand, zeigte einige neue Versuchsapparate.

Seite 125

Probleme des Kettenscherens werden in Alabama eroertert. Amerikanische Fabriksgebraeuche im Kettenscheren werden in diesem Bericht von Fabriksleitern gegeben, u.a. die letzten Informationen ueber den Gebrauch des Homogenizers fuer Kettenschlichte. Ein anderer Abschnitt unterweist in der Abdeckung der Druckwalzen. Dem Bericht nach, sind die Vorteile des Multimotor-Kettenbaumantriebes u.a., erhoehte Produktion und mehr Garn

para hacer el encolado de urdimbre. Hay otra sección que dice cómo cubrir los cilindros estrujadores. Las ventajas de las propulsiones de encoladora multimotor incluyen aumento de la producción y más hilos por enjulio, según el informe. También trata de las encoladoras de aire caliente.

Página 126

Conservación de Reguladores Eléctricos. La conservación correcta de los reguladores eléctricos evita las reparaciones excesivas y los paros costosos del equipo. Estas consideraciones son importantes: (1) seguridad personal, (2) buena instalación original, (3) piezas de repuesto adecuadas, y (4) inspección periódica. Los temas tratados en este artículo comprenden contactos, reguladores, bobinas de relevo y contactores, disyuntores, soportes y amortiguadores.

Página 131

Elaboración de Sintéticos de Fibras Largas. El artículo trata de los diversos sistemas posibles para hilar las fibras sintéticas largas – Bradford, American y Continental. Se indican en cada uno las ventajas y desventajas. El autor favorece el uso del sistema Continental con un sistema de remetido de gran estiraje con porcupinas.

Página 135

Resumen de Discusiones Sobre Sala de Tejedura. El artículo hace un resumen de los resultados de una reunión técnica de supervisores de hilaturas. Trata de la lubricación de telares, limpieza de cielo-rasos, conservación, control de desechos, humedad, orillos encogidos, conservación del anudador, lanzaderas, puntas del pulsador y roturas de canillas. Se ofrecen cifras efectivas de la fábrica. Hay también una tabla que resume los programas de lubricación de telares. Otra tabla indica cómo estas fábricas reducen al mínimo los orillos encogidos.

Página 141

Cinta de Estampado por Tamiz. Al usar cinta tejida de doble revestimiento en lugar de clavijas, una planta estampadora por tamiz ha reducido el tiempo requerido para colocar los géneros que se van a estampar sobre la mesa estampadora, de 3 horas a 8 minutos. La cinta es primeramente prensada a la mesa, se le quita el respaldo y se comprime el género sobre la cinta. La cinta puede volverse a utilizar para 35 estampados.

Página 143

Cambio de Estilo y Reparación General Combinados. Una hilatura decidió hacer una reparación general a cada máquina, mientras estaba parada para cambiar el estilo de hilatura. Ya se había desmantelado a medias la máquina, por lo tanto, ¿por qué no hacerlo del todo? Esto significaba reparaciones más frecuentes que lo acostumbrado, pero la conservación mejorada rindió beneficios al reducir el tiempo de paro causado por roturas. Se mantienen tarjetas de servicio para cada máquina; el artículo ofrece una de ellas como modelo.

Page 126

De l'entretien des relais électriques. Leur bon entretien supprime les réparations et arrêts coûteux. Facteurs à considérer: 1) sécurité du personnel, prévention des accidents, 2) bonne installation bien faite dès le début, 3) stock suffisant de pièces de rechange, 4) inspections régulières. L'article traite des contacts, coupleurs et combinateurs, contacteurs d'interrupteurs, bobines de relais, schunts et dérivations, etc.

Page 131

Comment filer les fibres synthétiques longues. Passant en revue les systèmes Bradford, Américain et Continental, l'auteur discute le pour et le contre de chacun d'eux mais recommande spécialement le système Continental avec grand étirage à hérissons.

Page 135

Echanges de vues entre chefs de salles de tissage. Résumés. Sujets traités: graissage des métiers, nettoyages des plafonds, entretien général, contrôle des déchets, humidité, lisières tirées, entretien des appareils noueurs, navettes, tâteurs et la casse des canettes. L'article est complété par des statistiques et par deux tableaux, l'un concernant le graissage des métiers et l'autre la réduction des défauts de lisières.

Page 141

Comment l'emploi de bandes gommées permet de réaliser des gains de temps considérables dans l'impression à la main. Des gains de temps fort substantiels furent réalisés en remplaçant les épingles employées dans le passé pour fixer le tissu sur la table, par des bandes gommées. L'ancien procédé demandait trois heures; le nouveau, huit minutes. La bande gommée est pressée sur la table. Le tissu, ensuite, est pressé sur la bande. Et cette même bande peut être employée jusqu'à 35 fois.

Page 143

Changement de dessin et nettoyage combinés en une opération. Un tricotage mécanique décida de profiter de l'arrêt d'un métier pour changement de dessin pour procéder à une inspection complète et à une mise au point générale de la machine à la même occasion. Le changement de dessin necessitant un démontage partiel de toute façon, c'est là une bonne occasion pour se livrer à une mise au point complète. Les mises au point et revisions complètes sont devenues plus fréquentes qu'il n'est coutume, mais les arrêts pour dérangements mécaniques en cours de fabrication ont diminué suffisamment pour justifier la dépense. Chaque métier à sa carte. Une d'elles se trouve reproduite dans l'article.

Page 145

Concours de l'Association des Chimistes. Résumé de l'étude qui gagna le premier prix. L'Association des Chimistes et Coloristes organisa un concours ouvert aux membres des différents groupes régionaux. Le premier prix alla à une étude sur "Trois épreuves de Solidité à la Lumière" par Kenneth Peters. Le second prix fut remporté par Kettenbaum. Es wird auch ueber Heissluft - Kettenschermaschinen berichtet.

Seite 126

Instandhaltung der elektrischen Kontrollapparate. Richtige Instandhaltung von elektrischen Kontrollapparaten vermeidet uebermaessige Reparaturen und kostspielige Stillstaende. Folgende Punkte sind wichtig zu beruecksichtigen: (1) Sicherheit des Personals, (2) gute Ersteinrichtung, (3) angemessene Erneuerung der Bestandteile, und (4) regelmaessige Inspektion. Der Bericht umfasst, wie angefuehrt, Kontakte, Kontrollapparate, Kontakt- und Verbindungsspulen, Nebenschluesse, Lager und Stossdaempfer.

Seite 131

Verarbeitung von langstapeligen Kunstfasern. Es werden die verschiedenen gebraeuchlichen Spinnverfahren fuer langstapelige Kunstfasern besprochen (Bradford-, American-, und das Continentale System). Vor- und Nachteile jedes einzelnen wird hervorgehoben. Der Autor zieht den Gebrauch des continentalen Systems mit Hochverzug und Nadelwalzenstrecke vor.

Seite 135

Zusammenfassung der Besprechung ueber die Weberei Abteilung. Es werden die Ergebnisse eines technischen Meetings der Fabriksaufseher zusammengefasst wiedergegeben. Webstuhlschmierung, Deckenreinigung, Instandhaltung, Abfallskontrolle, Raumfeuchtigkeit, eingezwaengte Tuchkanten, Instandhaltung des Knuepfers, Weberschiffchen, Fuehlhebel und Schussbrueche wurden besprochen und tatsaechliche Ziffern angefuehrt. Eine Tabelle zeigt die Schmierungszeiten fuer Webstuehle; eine andere zeigt, wie diese Fabriken ihre eingezwaengten Randleisten auf ein Minimum reduzieren.

Seite 141

Rahmendruckband. Dank der Verwendung eines doppelt ueberzogenen Textilbandes anstatt Nadeln, hat eine Rahmendruckfabrik die zum Auflegen des zu bedruckenden Fabrikates auf den Tisch benoetigte Zeit von 3 Stunden auf 8 Minuten reduziert. Das Band wird zuerst auf den Tisch gepresst, die Rueckseite abgezogen und das Fabrikat auf das Band gedruckt. Das Band kann fuer 35 Drucke verwendet werden.

Seite 143

Musterwechsel wird mit Ueberholen verbunden. Eine Strickwarenfabrik hat sich entschlossen jede Maschine waehrend des Musterwechselstillstandes zu ueberholen. Die Maschine war ohnedies halb auseinander genommen, so, warum nicht ganz? Dies bedeutet zwar oefteres Ueberholen als ueblich, aber die verbesserte Instandhaltung machte sich durch weniger Stillstaende zwecks Reparatur bezahlt. Bedienungskarten sind fuer jede Maschine angelegt, wie aus einer Abbildung ersichtlich ist.

Página 145

Temas del Concurso de la Asociación de Químicos. Esta sección hace resaltar los métodos mejorados para los procedimientos en húmedo que fueron presentados en las oposiciones del "Concurso Interseccional" en la reciente reunión anual de la AATCC. El estudio premiado es una evalución de tres ensayos posibles sobre el alcance de manchas en los géneros. En el artículo se dan también detalles de los otros estudios presentados en el concurso.

Página 151

Analizando las Operaciones de Mecheras. Un modelo sumario usado en una fábrica de la Nueva Inglaterra proporciona ùn análisis compacto de todos los factores importantes de la operación de las mecheras que es muy valioso para localizar y corregir las causas de pérdida de producción y de calidad. El artículo indica las medidas que hay que tomar para mejorar tanto la producción como la calidad. El análisis está dividido en temas de producción, unidades manejadas, rotura de cabos, análisis del trabajo y mano de obra, y de la base sobre la cual se paga el trabajo realizado.

Página 153

La Seguridad Rinde Grandes Beneficios. El programa de seguridad puesto en vigor hace cuatro años en una fábrica de algodón de la Carolina del Norte ha ahorrado a la compañía unos 36.000 dólares en economías generales, incluyendo no tan solo la compensación y los gastos médicos sino también una mayor eliminación de daños a la maquinaria, materiales echados a perder, pérdida de producción, tiempo perdido en la supervisión, etc. Los procedimientos que ha seguido la fábrica para reducir los accidentes son detallados en este artículo.

Página 157

Disminución de Textiles en Massachusetts. Acaba de publicarse un informe contradictorio políticamente sobre la manufactura de tejidos en el Estado de Massachusetts. El estudio imparcial indica que la cantidad de ganadores de jornales en las fábricas de tejidos de la Nueva Inglaterra decayó un 47 por ciento entre 1920 y 1947. El valor en dólares de los tejidos fabricados allá durante esos años bajó un 50 por ciento. Entre 1923 y 1948 se liquidaron o se mudaron a otra parte 90 fábricas de algodón de Massachusetts. El informe dice la razón, y los pasos que hay que dar para remediar la situación existente.

ves pour fixer le degré de salissure des tissus." L'article résume également des études présentées par d'autres participants.

Page 151

Analyse du rendement de bancs à broches. Une usine de la Nouvelle-Angleterre a composé un formulaire d'analyse sommaire du rendement des bancs de filature en gros. Ce document contient tous les éléments essentiels pour déterminer les causes de diminution de qualité et de rendement et pour en tirer les conclusions propres à corriger ces défauts. Cette analyse porte sur les facteurs suivants: production, nombre de broches par ouvrier, nombre de bouts rompus, analyse de la tâche et facteurs determinant le salaire.

Page 153

Des mesures de prévention qui paient un bon dividende. Un programme de sécurité qu'une usine de la Caroline du Nord lança il y a quatre ans lui a rapporté environ $36.000 incluant non seulement les frais de dédommagement en cas d'accident et les frais médicaux mais aussi les dommages occasionnés au matériel, la marchandise abimée, le manque de production et le temps perdu par le personnel de surveillance, etc. L'article explique en détail le système appliqué par cette firme.

Page 157

Déclin de l'industrie textile dans l'Etat du Massachusetts. Un rapport dont on attend des répercussions politiques vient d'être publié. Il traite du déclin de l'industrie textile dans une région où la main-d'oeuvre diminua, entre 1920 et 1947, de 47%, tandis que la valeur de la production exprimée en dollars baissa de 58% pendant la même période. 90 usines furent liquidées ou déplacées vers d'autres régions entre 1923 and 1948. Le rapport explique le pourquoi de cette situation et préconise des remèdes.

Seite 145

Abhandlungen fuer den Wettbewerb des Chemikerverbandes. Dieser Abschnitt bringt die Hoehepunkte der bei der letzten Jahresversammlung der AATCC unterbreiteten Abhandlungen im "Intersectional Contest" ueber verbesserte Methoden im Nassverfahren. Die beste Abhandlung ist ueber den Wert dreier moeglicher Teste des Messens von Schmutz an Fabrikaten. Es wird auch eine kurzgefasste Inhaltsangabe der anderen Wettbewerbs Abhandlungen gegeben.

Seite 151

Analyse der Operationen an der Feinspindel-Streckmaschine. Eine kurz zusammengefasste Aufzeichnung, die in einer Neu-England Fabrik benuetzt wird, gibt eine komplette Analyse aller wichtigen Faktoren fuer den Betrieb einer Feinspindel-Streckmaschine, welche insbesondere darauf hinweist, die Ursachen von Produktions- und Qualitaetsverlusten herauszufinden und zu korrigieren. Es werden dadurch die zu nehmenden Massnahmen angezeigt, um die Produktion und Qualitaet zu verbessern. Die Analyse ist in Produktion, behandelte Einheiten, Garnbruechen, Arbeitslastanalyse zerlegt, und die Basis zur Bezahlung der bewerkstelligten Arbeit gegeben.

Seite 153

Sicherheitsmassnahmen machen sich sehr bezahlt. Das von einer Baumwollfabrik in North Carolina eingeleitete Sicherheitsprogramm hat der Firma ungefaehr $36,000 Ersparnisse eingebracht, nicht nur an Schadenersatz und Krankheitsverlusten sondern auch zum Grossteil an Eliminierung von Maschinschaeden, verdorbenen Materialien, Erzeugungsverlusten, verlorener Aufsichtszeit, etc. Verfahren, welche die Fabrik befolgt hat, um Unfaelle zu vermeiden, werden detailiert angefuehrt.

Seite 157

Niedergang der Textil Industrie in Massachusetts. Ein zu politischer Kontroverse herausfordender Bericht ueber die Lage der Textilindustrie im Staate Massachusetts wurde veroeffentlicht. Der unparteiliche Ueberblick zeigte, dass die Zahl der Lohnempfaenger in der Textilindustrie in Neu-England zwischen 1920 und 1947 um 47% abgefallen ist, die Dollarumsaetze der Textilfabrikanten waehrend derselben Jahre waren um 58% geringer. 90 Baumwollfabriken in Massachusetts wurden liquidiert oder zogen zwischen 1923 und 1948 weg. Der Report erklaert den Grund dafuer und zeigt die Schritte an, die zu unternehmen sind, um der Situation abzuhelfen.

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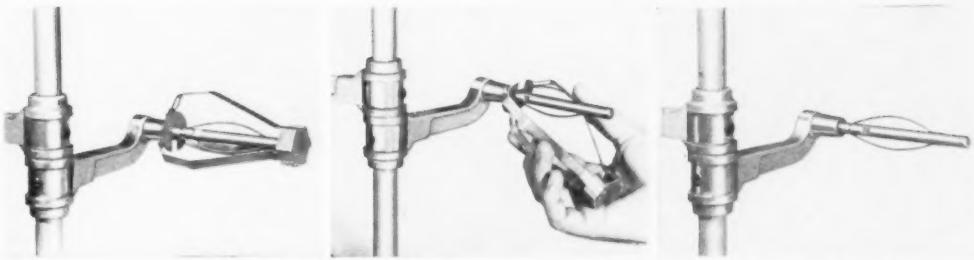

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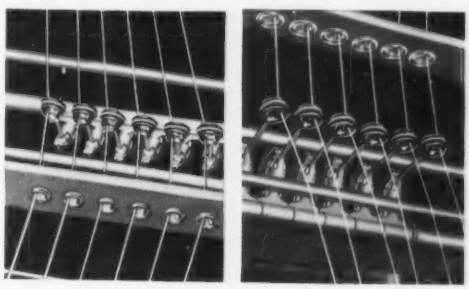

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